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MAJOR INDICATOR SHRUBS AND HERBS ON NATIONAL FORESTS OF EASTERN WASHINGTON

By

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Text: Hitchcock et al. (1955, 1959, 1961, 1964, 1969) was used extensively and is the taxonomic authority for this guide. Other references used are listed in the references section.

Photographs:

Clinton K. Williams
Terry R. Lillybridge
Fred C. Hall

Drawings: Line drawings are by Jeanne R. Janish and John H. Rumely from: Hitchcock et al. (1955, 1959, 1961, 1964, 1969) and are used by permission of the University of Washington Press.

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Introduction*

This guide contains information for species found in forested sites on the Okanogan, Wenatchee and Colville National Forests.

The purpose of the guide is to present nontechnical information that can be used by persons with a minimum of botanical training to identify indicator plants. Indicator plants are those species used to identify and describe plant associations, as well as those whose presence signifies certain environmental characteristics (i.e. high water table, cold soils, short growing season, etc.).

Plant associations are groupings of plants (plant communities) used by the USDA Forest Service (and others) to categorize and describe vegetation. Often they are indicators of critical environments, and thus constitute an important key to land management. Plant associations are generally identified through the use of a dichotomous key, similar to those used for plant species. This guide presents plants that are used or will be used in plant association keys for our area and those indicative of specific environments.

Plant associations for two of the three National Forests covered by this guide have been described in two publications: Williams and Lillybridge 1983 and Williams and Lillybridge 1985. The Wenatchee National Forest has not been classified at this time. Copies of these publications and of plant identification books for each forest, are available from:

Regional Ecologist
Division of Range and Watershed Management
USDA Forest Service, Pacific Northwest Region
PO Box 3623
Portland, Oregon 97208

*Modified from Halverson et al. 1986.



Species Descriptions

Each species description has the following format:

(FRONT OF PAGE)

Common Name

Common Name of Family

Scientific Name

Family Scientific Name

CODE

Range: Describes the range of the species; especially in our area.

Habitat: General description of suitable environments for the species including many relative terms. A typical description might be: moist and cool sites at mid elevations within and above the western hemlock series. These descriptions may not fit other geographical areas.

Similar Species: Species that might easily be confused with the plant being described and characteristics that will help to make a proper identification.

Remarks: Statements pertinent to the plant such as successional status, traditional Native American use, edibility or toxicity, palatability to ungulates, general remarks not covered above and other common names.

PHOTOGRAPH

(BACK OF PAGE)

Common Name

Scientific Name

CODE

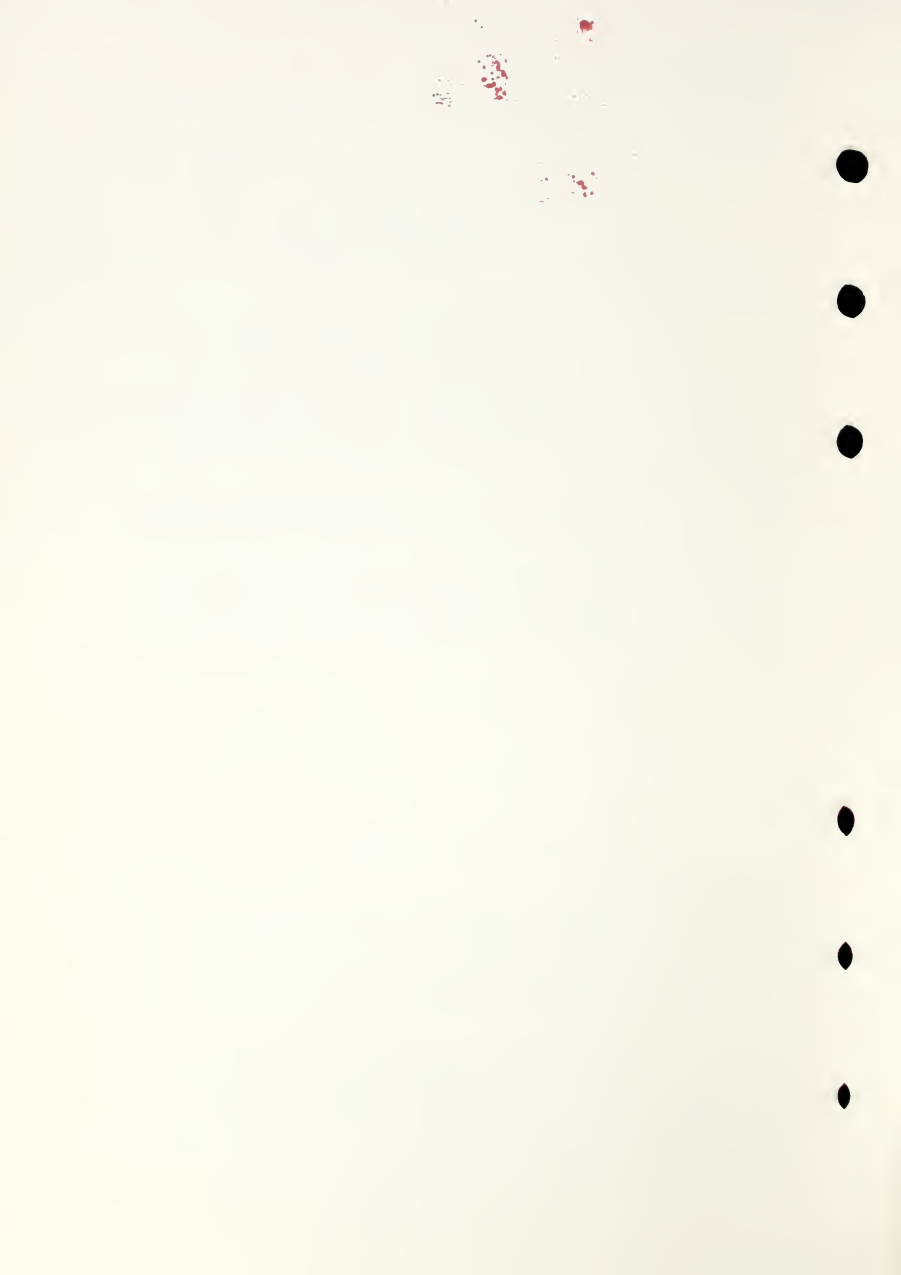
Habit: General descriptive statement of appearance which may include; size, life-form, stature (e.g. erect vs. prostrate) color etc.

Description: Simplified botanical description normally using the subheadings below. (Refer to the glossary for the definition of unfamiliar terms.)

Leaves: Description of leaves and leaflets including shape, size, texture, color, dentation, arrangement etc. **Stems:** Description of stems; if appropriate. Includes arrangement, texture and color.

Flowers: Months of flowering, size, color, arrangement and other pertinent characteristics. **Fruits:** Type, and may include color, number and size; or any other notable characteristics.

LINE DRAWING



Nomenclature

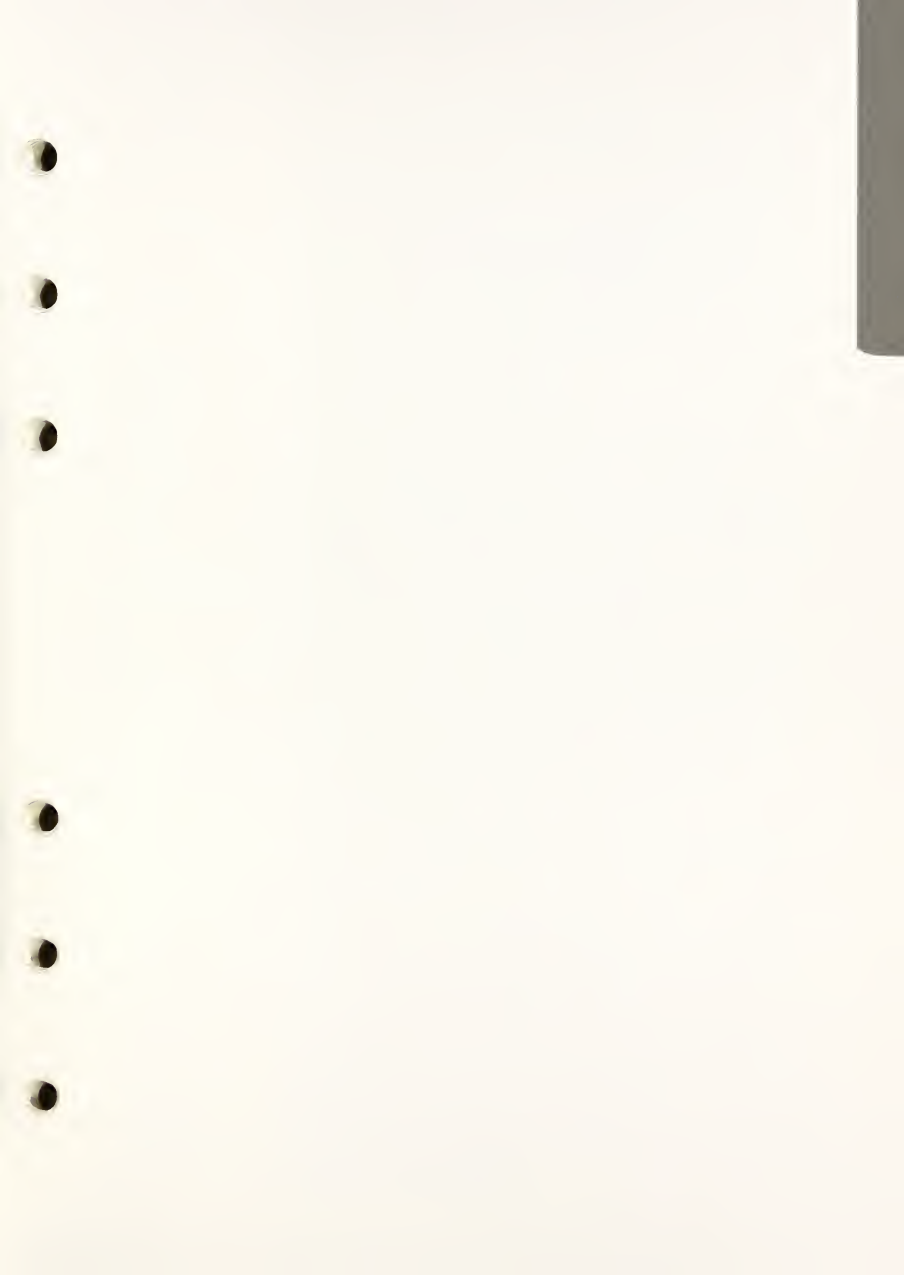
The common name in the description is the one most widely used in our area. In some cases the same common name may apply to more than one plant or the same plant may have several different common names. As a result, we suggest the use of scientific names or codes.

Scientific names are from Hitchcock and Cronquist (1973) fifth printing. Codes are from Garrison et al. (1976) and are commonly used within the Pacific Northwest Region of the Forest Service. These four or five digit codes are comprised of the first two letters of the genus and the first two letters of the specific epithet. The fifth digit is reserved for a number to separate species that have the same acronym.

Palatability is an evaluation made of the relative use or preference made by grazing or browsing animals including deer, elk, cattle and sheep. It is a subjective judgement based on experience and published comments. The relative palatability of a plant varies with area, associated species and season. Unpalatable does not mean inedible; just that a given species is not normally used in significant amounts.

Successional status refers to where a species is found in a sere (the succession of vegetation from bare ground to climax plant community). Early seral species are favored by disturbance and open, high light conditions. Late seral species are adapted to lower light levels and high competition from other plants.





Glossary of Terms

Achene	A dry, 1-seeded, indehiscent fruit.
Acuminate	Gradually tapered to a sharp point or tip.
Acute	Sharp pointed (shape, not texture) with straight or nearly straight sides.
Alternate	Growing at alternating intervals along the stem (leaves) or arranged alternately between other parts (i.e. stamens between petals).
Anther	The part of a stamen that bears the pollen, usually consisting of one or two pollen sacs.
Armed	Having spines, thorns etc.
Aromatic	Having an odor or smell.
Awn	A slender bristle or hair-like projection.
Auricle	A small lobe or ear-like projection usually at the base of a leaf blade in grasses.
Axil	The angle between a leaf or similar part and the stem.
Axillary	Pertaining to or arising from an axil.
Banner	The uppermost, generally enlarged petal, of flowers in the pea family.
Berry	Any pulpy or juicy fruit with more than one seed.
Bract	Any specialized leaf that subtends a flower or inflorescence but is not part of the flower itself.
Bunchgrass	A grass that grows from a bunch or clump.
Caespitose	Growing in dense tufts, i.e. bunchgrass.
Calyx	All the sepals of a flower as a group.
Capsule	A dry fruit containing 2 or more seeds that splits open at maturity.
Catkin	A dense, often drooping flower cluster, consisting of small, scalelike flowers.
Caudex	A short, often woody and vertical persistent stem, at or just beneath the ground surface.
Cauline	On or pertaining to the stem.
Cilia	Marginal hairs or bristles (e.g. eyelashes).
Ciliate	Having marginal hairs like eyelashes.
Ciliolate	Diminutive of ciliate.
Collar	The outer side of a grass leaf at the junction of the sheath and the blade.

Compound leaf	One with two or more distinct leaflets.
Corolla	All the petals of a flower together.
Cordate	Heart-shaped.
Corymb	A special flat-topped inflorescence with the outer pedicels progressively longer than the inner.
Culm	The stem of a grass or a grass-like plant.
Cyme	A normally flat-topped flower cluster that blooms from the center outwards.
Decidious	Falling off at the end of a season; not evergreen.
Decumbent	Lying on the ground with a prostrate base and erect tips.
Dehiscent	Opening at maturity to release the seeds.
Dentate	With spreading, pointed teeth.
Dioecious	Having the male and female flowers on separate plants.
Drupe	A fruit where the hard covered seed lies within a fleshy outer layer (e.g. cherry; peach). Diminutive is drupelet.
Entire	Leaves without marginal teeth or lobes.
Evergreen	Foliage remains green throughout the year; not deciduous.
Floral	Pertaining to a flower or flowers.
Floret	A small flower, usually one of a large cluster such as in grasses.
Follicle	A single chambered fruit that splits along only one seam to release the seeds.
Forb	An herb. Any herbaceous plant that is not grasslike.
Fruit	A ripened ovary with any other structures that ripen with and are joined to it.
Frond	The usually compound leaf of a fern.
Galea	A helmet-shaped part or upper lip of some flowers.
Genus	A taxonomic class below a family and above a species (e.g. all pines are of one genus). Plural is genera.
Glabrous	Smooth and without hairs.

Gland	A structure on the surface of an organ that produces a sticky or greasy substance.
Glandular	Provided with glands or functioning as such.
Glaucous	Covered with a fine, whitish, waxy powder.
Glume	The outermost bracts in spikelets of grasses, which do not subtend the individual florets.
Habit	The general growth form and appearance of a species.
Head	A dense, compact cluster of flowers.
Herb	A plant with a fleshy stem that dies back to ground level each year. A non-woody plant.
Herbaceous	Leaflike in color and texture; non-woody.
Hirsute	With moderately coarse and stiff hairs.
Hydric	A relative term used with xeric and mesic to denote the wetness of a site. Xeric-mesic-hydric indicates from dry to wet. Hydric is a synonymus term that is more correct.
Indehiscent	Not opening or dehiscent at maturity.
Inflorescence	A flower cluster of a plant, or the arrangement of the flowers on the plant.
Involucre	A whorl or series of bracts or scales beneath or around a flower cluster.
Lanate	Wooly.
Lanceolate	Lance-shaped.
Lanulose	Diminutive of lanate. Fine wooly.
Leaflet	One of the segments of a compound leaf.
Lemma	One of the two bracts that normally subtend individual flowers in grass spikelets. It is the outer, lower bract. The palea is the inner lower bract.
Ligule	A straplike structure as in the ray flower of some members of the sunflower family; or the membranous or hair-like appendage at the inside junction of a grass blade and sheath.
Mesic	Moderate moisture. See Hydric.
Moderate	Used in the context of not extreme in terms of temperature, elevation and moisture.
Midrib	The main or central rib of a leaf.

Monoecious	Meaning is "one house" and it refers to plants with separate male and female flowers on the same plant.
Node	The place on a stem where a leaf is or was attached.
Oblanceolate	A leaf shape widest above the midlength.
Obtuse	Blunt or rounded in shape; not sharp pointed.
Opposite	In pairs on either side of a stem at the same node.
Ovate	Egg-shaped.
Palmate	Resembling a hand with the fingers extended. Three or more leaflets, etc. arising from a common point.
Panicle	A loose, irregular flower cluster with compound branching.
Pedicel	A small stalk bearing a single flower in an inflorescence.
Peduncle	The stalk of an inflorescence or of a solitary flower.
Perennial	A plant that lives more than two years.
Persistent	Remaining attached after the normal function is completed.
Petiolate	With a petiole.
Petiole	Leaf stalk.
Plumose	Feathery or plume-like.
Pilose	With long, straight, soft, spreading hairs.
Pinna	Any leaflet of a pinnate leaf. Pinnae is plural.
Pinnate	With leaflets, lobes, etc. on each side of a common stem or axis. Feather-like.
Pistil	The seed-bearing organ of a flower, made up of the ovary, style and stigma.
Pistilate	Bearing pistils but not stamens.
Pome	A fleshy fruit having seeds but no stone; e.g. an apple.
Prickle	A small, sharp, usually slender outgrowth of the bark.
Puberulent	Finely pubescent or hairy with minute hairs.
Pubescent	Covered with short hairs.

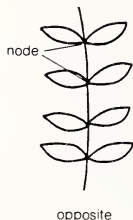
Raceme	An inflorescence with several to many stalked flowers arranged singly along a common stem or axis.
Rachis	A main axis of a leaf or inflorescence.
Ray-flowers	The flowers in the sunflower or aster family with strap-shaped corollas.
Reflexed	Bent abruptly backward or downward.
Reniform	Kidney-shaped.
Rhizomatous	Having rhizomes.
Rhizome	A root-like underground stem that sends out shoots from its upper surface and roots from the under surface.
Rootstock	Rhizome.
Rosette	A basal cluster of leaves, flowers, etc.; arranged in a circle or disc.
Samara	A dry, indehiscent, winged fruit.
Scabrid	Roughened.
Scape	A flowering stem from the ground without leaves (sometimes with bracts).
Scapose	Having the flowers on a scape.
Schizocarp	A dry fruit that splits at maturity into two or more seeds.
Scurfy	A loose, scaly crust.
Secund	Having all flowers or branches on one side of the axis.
Sedge	A grasslike plant of the family Cyperaceae that resemble grasses but have solid (often triangular) stems without nodes.
Sepal	One of the outermost (typically green) segments of a flower.
Series	A group of plant associations with the same dominant climax species.
Serrate	Leaves toothed along the margin with forward pointing teeth.
Serrulate	Diminutive of serrate.
Sessile	Attached directly by the base with no pedicel or petiole.

Sheath	Any organ that surrounds another; as part of the grass leaf that surrounds the stem.
Sorus	A cluster of spore cases on the underside of fern fronds. Sori is plural.
Spatulate	Shaped like a spatula; rounded above and narrowed to the base.
Species	A taxonomic class below that of genus; generally refers to organisms capable of interbreeding.
Spike	A usually elongate inflorescence with sessile or subsessile flowers arranged along an axis.
Spikelet	A small or secondary spike; such as those found in the inflorescences of many grasses.
Spine	A firm, sharp pointed, modified leaf or stipule. Diminutive is spinule.
Spinose	Bearing spines; spiny.
Spinulose	Bearing spinules.
Stamen	The male part of the flower consisting of the anther and usually a stalk or filament.
Staminate	Having or producing stamens; or a flower with just stamens and no pistils.
Stellate	Arranged or shaped like a star; radiating from a center.
Stipule	One of the usually small, paired, leaf-like structures at the base of leaves on some plants.
Stolon	A creeping stem above the ground rooting at the nodes.
Stoloniferous	Having or bearing stolons.
Subshrub	A very low (usually less than 1 foot tall) and semi-woody plant with a persistent, somewhat woody base. Some consider them as woody herbs. (Suffrutescent is the proper botanical term for semi-shrubby plants.)
Tepal	A sepal or petal; often used when it is not known which is the proper term, especially in the lily family.
Terminal	At the end or tip.
Ternate	In three's.
Thorn	A modified stem with a sharp point.

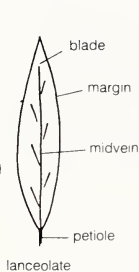
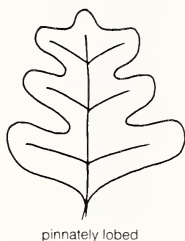
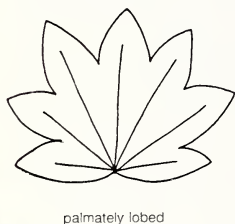
Throat	The outer expanded part of a tubular corolla; or the upper margins of the sheath in grasses.
Trailing	Prostrate, but not rooting.
Umbel	A flat-topped inflorescence in which the individual flowers arise from about the same point like the ribs of an umbrella.
Vein	An externally visible vascular bundle.
Venation	The mode or pattern of veining.
Whorl	Three or more parts, radiating from a single point.
Xeric	See hydric.

Terms of Vegetative Structures

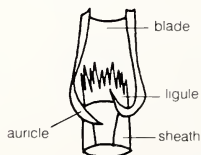
Leaf Arrangement



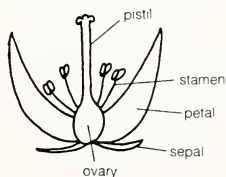
Leaf Shape



Grass Parts



Flower Parts



Species List by Scientific Name – Shrubs and Subshrubs

SCIENTIFIC NAME	CODE	COMMON NAME
<i>Acer circinatum</i>	ACCI	Vine maple
<i>Acer glabrum douglasii</i>	ACGLD	Douglas maple
<i>Alnus sinuata</i>	ALSI	Sitka alder
<i>Arctostaphylos nevadensis</i>	ARNE	Pinemat manzanita
<i>Arctostaphylos uva-ursi</i>	ARUV	Bearberry, kinnikinnick
<i>Berberis aquifolium</i>	BEAQ	Oregon grape
<i>Berberis nervosa</i>	BENE	Cascade Oregon grape
<i>Ceanothus sanguineus</i>	CESA	Redstem ceanothus
<i>Ceanothus velutinus</i>	CEVE	Snowbrush ceanothus
<i>Chimaphila umbellata occidentalis</i>	CHUMO	Western prince's pine
<i>Cornus canadensis</i>	COCA	Bunchberry dogwood
<i>Cornus stolonifera</i>	COST	Red-osier dogwood
<i>Gaultheria ovatifolia</i>	GAOV	Slender wintergreen
<i>Holodiscus discolor</i>	HODI	Ocean-spray
<i>Ledum glandulosum</i>	LEGL	Western ledum
<i>Linnaea borealis longiflora</i>	LIBOL	Twinflower
<i>Lonicera utahensis</i>	LOUT2	Utah honeysuckle
<i>Menziesia ferruginea</i>	MEFE	Rusty menziesia
<i>Oplopanax horridum</i>	OPHO	Devil's club
<i>Pachistima myrsinites</i>	PAMY	Pachistima
<i>Phyllodoce empetrifolia</i>	PHEM	Red mountain-heath
<i>Physocarpus malvaceus</i>	PHMA	Ninebark
<i>Purshia tridentata</i>	PUTR	Bitterbrush
<i>Pyrola asarifolia</i>	PYAS	Alpine pyrola
<i>Pyrola secunda</i>	PYSE	Sidebells pyrola
<i>Rhododendron albiflorum</i>	RHAL	Cascades azalea
<i>Ribes cereum</i>	RICE	Wax currant
<i>Ribes lacustre</i>	RILA	Prickly currant
<i>Ribes viscosissimum</i>	RIVI	Sticky currant
<i>Rosa gymnocarpa</i>	ROGY	Baldhip rose

Species List by Scientific Name – Shrubs and Subshrubs

SCIENTIFIC NAME	CODE	COMMON NAME
<i>Rosa nutkana hispida</i>	RONUH	Bristly nootka rose
<i>Rosa woodsii</i> <i>ultramontana</i>	ROWOU	Wood's rose
<i>Rubus lasiococcus</i>	RULA	Dwarf bramble
<i>Rubus parviflorus</i>	RUPA	Thimbleberry
<i>Rubus pedatus</i>	RUPE	Five-leaved bramble
<i>Salix scouleriana</i>	SASC	Scouler willow
<i>Shepherdia canadensis</i>	SHCA	Russet buffaloberry
<i>Sorbus scopulina</i>	SOSC2	Mountain ash
<i>Spirea betulifolia lucida</i>	SPBEL	Shiny-leaf spirea
<i>Symphoricarpos albus</i>	SYAL	Common snowberry
<i>Symphoricarpos mollis</i> <i>hesperius</i>	SYMOH	Creeping snowberry
<i>Symphoricarpos</i> <i>oreophilus</i>	SYOR	Mountain snowberry
<i>Vaccinium alaskaense</i>	VAAL	Alaska huckleberry
<i>Vaccinium caespitosum</i>	VACA	Dwarf huckleberry
<i>Vaccinium deliciosum</i>	VADE	Cascade huckleberry
<i>Vaccinium</i> <i>membranaceum</i>	VAME	Big huckleberry
<i>Vaccinium myrtillus</i>	VAMY	Low huckleberry
<i>Vaccinium parvifolium</i>	VAPA	Red huckleberry
<i>Vaccinium scoparium</i>	VASC	Grouse huckleberry
<i>Xerophyllum tenax</i>	XETE	Beargrass

Species List by Common Name – Shrubs and Subshrubs

COMMON NAME	CODE	SCIENTIFIC NAME
Alaska huckleberry	VAAL	Vaccinium alaskaense
Alpine pyrola	PYAS	Pyrola asarifolia
Baldhip rose	ROGY	Rosa gymnocarpa
Bearberry, kinnikinnick	ARUV	Arctostaphylos uva-ursi
Beargrass	XETE	Xerophyllum tenax
Big huckleberry	VAME	Vaccinium membranaceum
Bitterbrush	PUTR	Purshia tridentata
Bristly nootka rose	RONUH	Rosa nutkana hispida
Bunchberry dogwood	COCA	Cornus canadensis
Cascade Oregon grape	BENE	Berberis nervosa
Cascade huckleberry	VADE	Vaccinium deliciosum
Cascades azalea	RHAL	Rhododendron albiflorum
Common snowberry	SYAL	Symphoricarpos albus
Creeping snowberry	SYMOH	Symphoricarpos mollis hesperius
Devil's club	OPHO	Oplopanax horridum
Douglas maple	ACGLD	Acer glabrum douglasii
Dwarf bramble	RULA	Rubus lasiococcus
Dwarf huckleberry	VACA	Vaccinium caespitosum
Five-leaved bramble	RUPE	Rubus pedatus
Grouse huckleberry	VASC	Vaccinium scoparium
Low huckleberry	VAMY	Vaccinium myrtillus
Mountain ash	SOSC2	Sorbus scopulina
Mountain snowberry	SYOR	Symphoricarpos oreophilus
Ninebark	PHMA	Physocarpus malvaceus
Ocean-spray	HODI	Holodiscus discolor
Oregon grape	BEAQ	Berberis aquifolium
Pachistima	PAMY	Pachistima myrsinites
Pinemat manzanita	ARNE	Arctostaphylos nevadensis
Prickly currant	RILA	Ribes lacustre
Red huckleberry	VAPA	Vaccinium parvifolium
Red mountain-heath	PHEM	Phyllodoce empetrifomis
Red-osier dogwood	COST	Cornus stolonifera

Species List by Common Name – Shrubs and Subshrubs

COMMON NAME	CODE	SCIENTIFIC NAME
Redstem ceanothus	CESA	Ceanothus sanguineus
Russet buffaloberry	SHCA	Shepherdia canadensis
Rusty menziesia	MEFE	Menziesia ferruginea
Scouler willow	SASC	Salix scouleriana
Shiny-leaf spirea	SPBEL	Spirea betulifolia lucida
Sidebells pyrola	PYSE	Pyrola secunda
Sitka alder	ALSI	Alnus sinuata
Slender wintergreen	GAOV	Gaultheria ovatifolia
Snowbrush ceanothus	CEVE	Ceanothus velutinus
Sticky currant	RIVI	Ribes viscosissimum
Thimbleberry	RUPA	Rubus parviflorus
Twinflower	LIBOL	Linnaea borealis longiflora
Utah honeysuckle	LOUT2	Lonicera utahensis
Vine maple	ACCI	Acer circinatum
Wax currant	RICE	Ribes cereum
Westerm ledum	LEGL	Ledum gladulosum
Western prince's pine	CHUMO	Chimaphila umbellata occidentalis
Western thimbleberry	RUPA	Rubus parviflorus
Wood's rose	ROWOU	Rosa woodsii ultramontana

Species List by Scientific Name – Herbs

SCIENTIFIC NAME	CODE	COMMON NAME
<i>Achillea millefolium</i>	ACMI	Yarrow
<i>Achlys triphylla</i>	ACTR	Vanilla leaf
<i>Actaea rubra</i>	ACRU	Baneberry
<i>Adenocaulon bicolor</i>	ADBI	Pathfinder
<i>Aralia nudicaulis</i>	ARNU3	Wild sarsparilla
<i>Arnica cordifolia</i>	ARCO	Heartleaf arnica
<i>Arnica latifolia</i>	ARLA	Broadleaf arnica
<i>Arenaria macrophylla</i>	ARMA3	Bigleaf sandwort
<i>Asarum caudatum</i>	ASCA3	Wild ginger
<i>Aspidotis densa</i>	ASDE	Podfern
<i>Athyrium filix-femina</i>	ATFI	Lady-fern
<i>Balsamorhiza sagittata</i>	BASA	Arrowleaf balsamroot
<i>Clintonia uniflora</i>	CLUN	Queencup beadlily
<i>Disporum hookeri</i>	DIHO	Hooker fairybells
<i>Disporum trachycarpum</i>	DITR	Wartberry fairybells
<i>Equisetum arvense</i>	EQAR	Common horsetail
<i>Galium triflorum</i>	GATR	Sweetscented bedstraw
<i>Goodyera oblongifolia</i>	GOOB	Western rattlesnake plantain
<i>Gymnocarpium dryopteris</i>	GYDR	Oak fern
<i>Hieracium albiflorum</i>	HAL	White hawkweed
<i>Lathyrus pauciflorus</i>	LAPA3	Few-flowered peavine
<i>Luina nardosima</i>	LUNA2	Silvercrown luina
<i>Lupinus latifolius</i>	LULA	Broadleaf lupine
<i>Lupinus sericeus</i>	LUSE	Silky lupine
<i>Osmorhiza chilensis</i>	OSCH	Sweetroot
<i>Pedicularis bracteosa</i>	PEBR	Bracted pedicularis
<i>Pedicularis racemosa</i>	PERA	Sickletop pedicularis
<i>Polystichum munitum</i>	POMU	Swordfern
<i>Senecio triangularis</i>	SETR	Arrowleaf groundsel
<i>Smilacina stellata</i>	SMST	Starry solomonplume
<i>Streptopus amplexifolius</i>	STAM	Claspleaf twistedstalk
<i>Streptopus rosea</i>	STRO	Rosy twistedstalk
<i>Thalictrum occidentale</i>	THOC	Western meadowrue
<i>Tiarella unifoliata</i>	TIUN	Coolwort foamflower

Species List by Scientific Name – Herbs

SCIENTIFIC NAME	CODE	COMMON NAME
<i>Trautvetteria caroliniensis</i>	TRCA3	False bugbane
<i>Trientalis latifolia</i>	TRLA2	Western starflower
<i>Trillium ovatum</i>	TROV	Trillium
<i>Valeriana sitchensis</i>	VASI	Sitka valerian
<i>Veratrum viride</i>	VEVI	American false hellebore
<i>Viola glabrella</i>	VIGL	Pioneer violet
<i>Viola orbiculata</i>	VIOR2	Round-leaved violet
<i>Viola purpurea</i>	VIPU	Goosefoot violet

Species List by Common Name – Herbs

COMMON NAME	CODE	SCIENTIFIC NAME
American false hellebore	VEVI	<i>Veratrum viride</i>
Arrowleaf balsamroot	BASA	<i>Balsamorhiza sagittata</i>
Arrowleaf groundsel	SETR	<i>Senecio triangularis</i>
Baneberry	ACRU	<i>Actaea rubra</i>
Bigleaf sandwort	ARMA3	<i>Arenaria macrophylla</i>
Bracted pedicularis	PEBR	<i>Pedicularis bracteosa</i>
Broadleaf arnica	ARLA	<i>Arnica latifolia</i>
Broadleaf lupine	LULA	<i>Lupinus latifolius</i>
Claspleaf twistedstalk	STAM	<i>Streptopus amplexifolius</i>
Common horsetail	EQAR	<i>Equisetum arvense</i>
Coolwort foamflower	TIUN	<i>Tiarella unifoliata</i>
False bugbane	TRCA3	<i>Trautvetteria caroliniensis</i>
Few-flowered peavine	LAPA3	<i>Lathyrus pauciflorus</i>
Goosefoot violet	VIPU	<i>Viola purpurea</i>
Heartleaf arnica	ARCO	<i>Arnica cordifolia</i>
Hooker fairybells	DIHO	<i>Disporum hookeri</i>
Lady-fern	ATFI	<i>Athyrium filix-femina</i>
Oak fern	GYDR	<i>Gymnocarpium dryopteris</i>
Pathfinder	ADBI	<i>Adenocaulon bicolor</i>
Pioneer violet	VIGL	<i>Viola glabella</i>
Podfern	ASDE	<i>Aspidotis densa</i>
Queencup beadlily	CLUN	<i>Clintonia uniflora</i>
Rosy twistedstalk	STRO	<i>Streptopus rosea</i>
Round-leaved violet	VIOR2	<i>Viola orbiculata</i>
Sickletop pedicularis	PERA	<i>Pedicularis racemosa</i>
Silky lupine	LUSE	<i>Lupinus sericeus</i>
Silvercrown luina	LUNA2	<i>Luina nardosima</i>
Sitka valerian	VASI	<i>Valeriana sitchensis</i>
Starry solomonplume	SMST	<i>Smilacina stellata</i>
Sweetroot	OSCH	<i>Osmorhiza chilensis</i>
Sweetscented bedstraw	GATR	<i>Galium triflorum</i>
Swordfern	POMU	<i>Polystichum munitum</i>
Trillium	TROV	<i>Trillium ovatum</i>
Vanilla leaf	ACTR	<i>Achlys triphylla</i>
Wartberry fairybells	DITR	<i>Disporum trachycarpum</i>
Western meadowrue	THOC	<i>Thalictrum occidentale</i>

Species List by Common Name – Herbs

COMMON NAME	CODE	SCIENTIFIC NAME
Western rattlesnake plantain	GOOB	Goodyera oblongifolia
Western starflower	TRLA2	Trientalis latifolia
White hawkweed	HIAL	Hieracium albiflorum
Wild ginger	ASCA3	Asarum caudatum
Wild sarsparilla	ARNU3	Aralia nudicaulis
Yarrow	ACMI	Achillea millefolium

Species List by Scientific Name – Grasses and Grass-like

SCIENTIFIC NAME	CODE	COMMON NAME
<i>Agropyron spicatum</i>	AGSP	Bluebunch wheatgrass
<i>Carex concinnoides</i>	CACO	Northwestern sedge
<i>Carex geyeri</i>	CAGE	Elksedge
<i>Carex rossii</i>	CARO	Ross sedge
<i>Calamagrostis rubescens</i>	CARU	Pinegrass
<i>Luzula hitchcockii</i>	LUHI	Smooth woodrush

Species List by Common Name – Grasses and Grass-like

COMMON NAME	CODE	SCIENTIFIC NAME
Bluebunch wheatgrass	AGSP	<i>Agropyron spicatum</i>
Elksedge	CAGE	<i>Carex geyeri</i>
Northwestern sedge	CACO	<i>Carex concinnoides</i>
Pinegrass	CARU	<i>Calamagrostis rubescens</i>
Ross sedge	CARO	<i>Carex rossii</i>
Smooth woodrush	LUHI	<i>Luzula hitchcockii</i>





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Vine Maple

Maple Family

Acer circinatum
Family Aceraceae

ACCI

Range: Alaska to northern California; from the east slope of the Cascades (rarely in the Rocky Mountains) to the coast. Common in our area only on parts of the Wenatchee National Forest.

Habitat: Moist and relatively warm sites at low to middle elevations within and above the grand fir series. Best developed on sandstones on the Lake Wenatchee and part of the Leavenworth Districts.

Similar Species: Resembles the more common and widespread (in our area) Douglas maple (*A. glabrum* var. *douglasii*). Vine maple leaves have 7 to 9 lobes while Douglas maple leaves have 3 to 5 lobes.

Remarks: May form nearly impenetrable tangles and make tree establishment difficult. Northwest Indians made a variety of things from the very flexible stems. Excellent for landscaping because of exceptional fall colors. Moderately palatable for livestock, highly used by deer and elk. Early to mid successional.



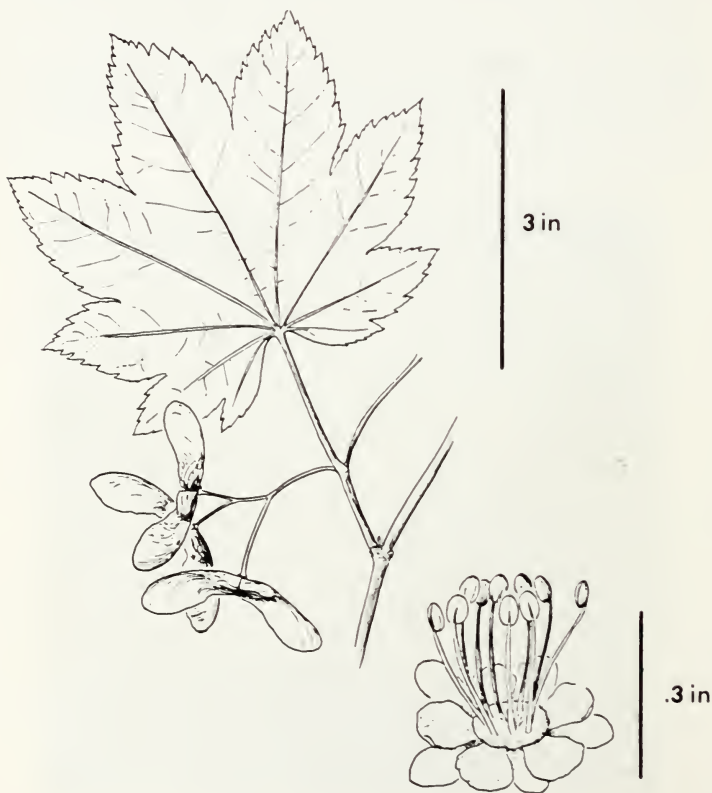
Vine Maple

Acer circinatum

ACCI

Habit: A deciduous shrub or small tree; to nearly 30 feet tall.

Description: *Leaves:* opposite, more or less fan-shaped, up to 5 inches across, 7-9 lobed and serrate; blades are generally hairy on the lower surface and hairy, at least along the veins on the upper surface. *Stems:* opposite branching; the bark is purplish-red when young becoming brown with age. *Flowers:* (March-June) relatively few, terminal and lateral on mostly 2-leaved shoots; red from the wine-red color of the conspicuous sepals although the petals are white. *Fruits:* double samaras with wings forming an angle of greater than 90 degrees.



Douglas Maple

Maple Family

Acer glabrum* var. *douglasii

ACGLD

Family Aceraceae

Range: Widespread in the Pacific Northwest to Montana where another variety becomes more common.

Habitat: Dry to moist environments at low to middle elevations. Indicates moderate to good Douglas-fir and ponderosa pine sites but it is not constant enough to be a reliable indicator. Generally found in drier environments than vine maple (*A. circinatum*) but Douglas maple has a wider ecological amplitude so both may occasionally be found on the same site.

Similar Species: May be confused with vine maple which has leaves with 7 to 9 lobes and with big-leaf maple (*A. macrophyllum*). The latter has much larger and more deeply lobed leaves than Douglas maple.

Remarks: Used by Indians to make many articles and to smoke meats. Also called Rocky Mountain Maple. Moderately palatable to livestock, highly used by deer and elk. Early to mid successional.



Douglas Maple

Acer glabrum var. *douglasii*

ACGLD

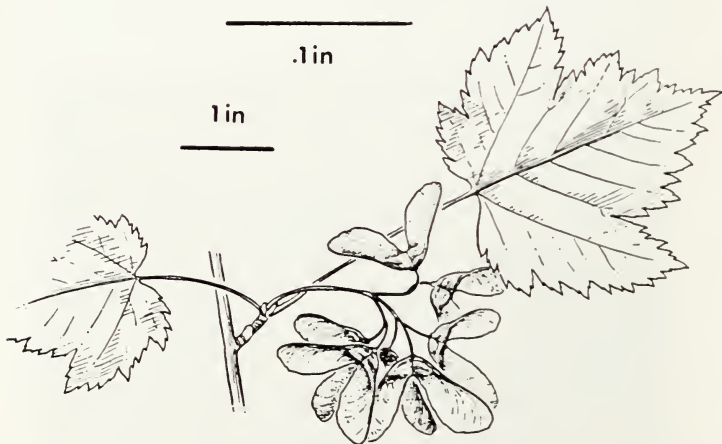
Habit: A deciduous shrub or small tree up to 30 feet tall.

Description: **Leaves:** opposite, palmate, 1 to 6 inches long by $2\frac{1}{2}$ to 6 inches wide, 3-5 lobed (commonly 3), sharply toothed with long petioles. **Stems:** opposite branching, the bark is reddish when young turning gray with age. **Flowers:** (April-June) small, greenish, in hanging clusters from leaf axils. **Fruits:** double samaras; the wings forming an angle of less than 90 degrees.



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1 in



Sitka Alder

Alder Family

Alnus sinuata

ALSI

Family Betulaceae

Range: Widespread from Alaska to California to much of Idaho and Montana.

Habitat: Indicates cool-cold and moist environments; generally at upper elevations on northerly aspects or bottoms. Indicates high soil moisture with potential for excess water after logging.

Similar Species: Easily confused with other alders; most especially with mountain alder (*A. incana*). Sitka alder is the only one with acuminate leaf tips and hair in the underside leaf vein axils. The foliage may be confused with that of hazelnut (*Corylus cornuta*) but hazelnut has soft, fuzzy leaves with cordate bases and grows in warmer, drier environments.

Remarks: A nitrogen fixing shrub. The most common alder in our area but uncommon in stands within the Douglas-fir series. Alders were widely used by Indians as an astringent as well as for tonic properties. Alder was a main source of red and brown vegetable coloring and was used for baskets and cordage. Low to moderate in palatability but it is the most palatable of the alders. Early successional.



Sitka Alder

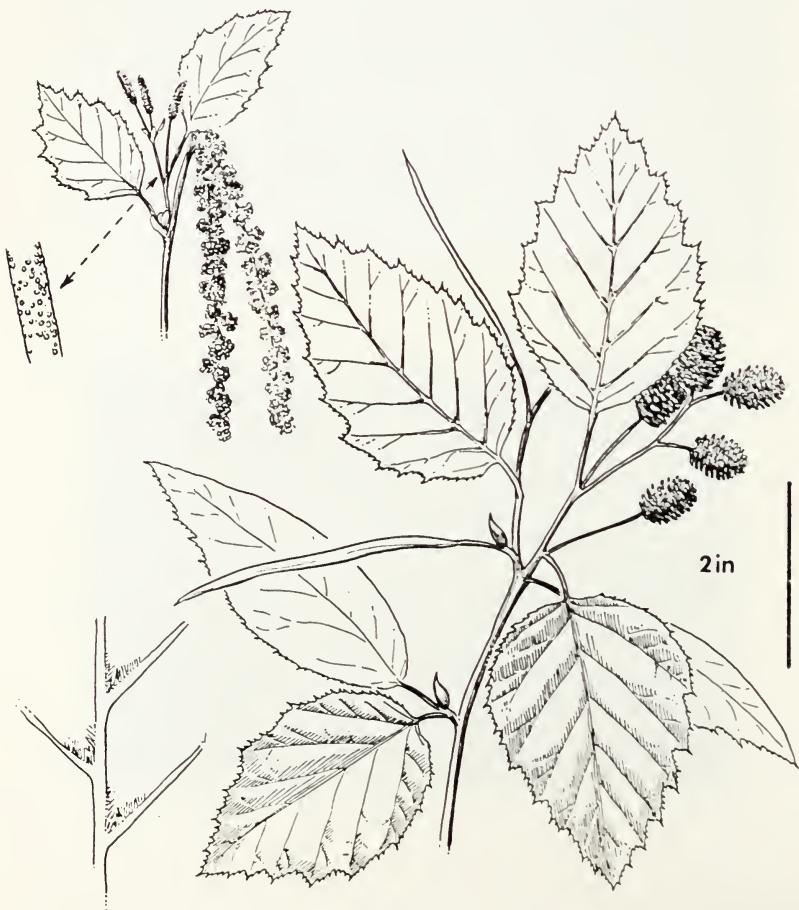
Alnus sinuata

ALSI

Habit: A bushy shrub up to 10 feet tall; often forming dense thickets.

Description: **Leaves:** deciduous, alternate, doubly serrate and sharply pointed. The main veins on the underside commonly have tufts of hair in the axils. **Stems:** alternate branching, the bark has glandular spots and is reddish-brown, maturing to grayish-black.

Flowers: (May-July) catkins develop with the leaves on the current years' growth. **Fruits:** small "cones" (female catkins) with small, winged seeds.



Pinemat Manzanita

Heath Family

Arctostaphylos nevadensis

ARNE

Family Ericaceae

Range: Washington Cascades to California and east to the Blue Mountains of Oregon.

Habitat: Typically of rocky sites on soils developed from basalts and sedimentary parent materials at middle to upper elevations; but not restricted to such conditions. Not usually found on more acid rock types such as granite. Indicates low productivity sites that are difficult to regenerate.

Similar Species: Readily confused with bearberry (*A. uva-ursi*) which has rounded leaf tips, a bright red berry and is slightly lower in growth form.

Remarks: Berries are eaten by wildlife (edible but not especially tasty) and the leaves have been used for curative teas and as a smoking tobacco. It makes an excellent ground cover. Unpalatable. Early to late successional.



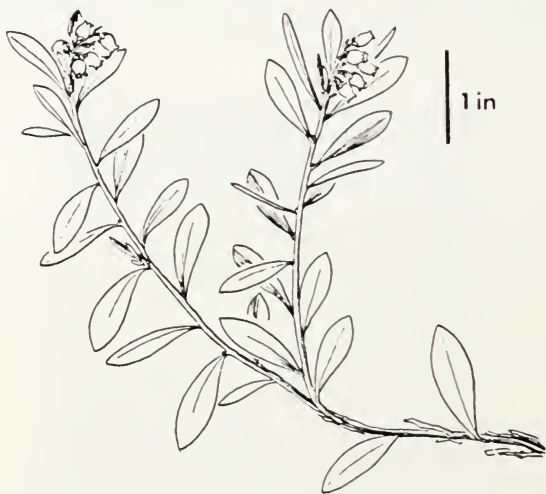
Pinemat Manzanita

Arctostaphylos nevadensis

ARNE

Habit: A decumbent, evergreen shrub with trailing, rooting stems; to over 10 inches tall.

Description: *Leaves:* generally over 1 inch long, spatulate and leathery with a slight to well-developed point. They tend to be nearly the same color on both sides. *Stems:* alternate branching; the bark is reddish to brownish and often peeling. *Flowers:* (April-June) small; 1/4 inch, pink and urn-shaped in terminal, few-flowered racemes. *Fruits:* round, brownish-red berries.



Bearberry

Heath Family

Arctostaphylos uva-ursi

ARUV

Family Ericaceae

Range: Circumboreal; through the Cascades and in the Rocky Mountains.

Habitat: Dry, warm sites at low elevations to cooler, moist sites at upper elevations. Bearberry has a broad ecological amplitude but is most abundant on sites with compacted or stony subsoils that limit root development. Generally on quartz based sands or on acid rock types and glacial tills and drift.

Similar Species: Commonly confused with twinflower (*Linnaea borealis* var. *longiflora*) which has opposite, shallowly toothed leaves; and with pinemat manzanita (*A. nevadensis*) which has pointed leaves more nearly the same color on both sides).

Remarks: The berries are edible although not especially tasty. They are highly sought by wildlife. Indians used the dried leaves for tobacco and steeped the leaves (which contain arbutin and tannic acid) in water to make a curative tea, they also made a cider from the berries. Also known as "Indian Tobacco". Unpalatable. Early to late successional.



Bearberry

Arctostaphylos uva-ursi

ARUV

Habit: A decumbent, spreading, evergreen shrub with rooting stems. Seldom over 6 inches tall.

Description: *Leaves:* blunt, leathery, evergreen, oblong to spatula-shaped, 3/4 to 1 1/4 inches long, dark green and somewhat shiny above, while paler below. *Stems:* alternate branching; the bark is reddish to brown. *Flowers:* (April-June) small, pinkish and urn-shaped. *Fruits:* mealy, bright red berries.



Oregon Grape Barberry Family

Berberis aquifolium

Family Berberidaceae

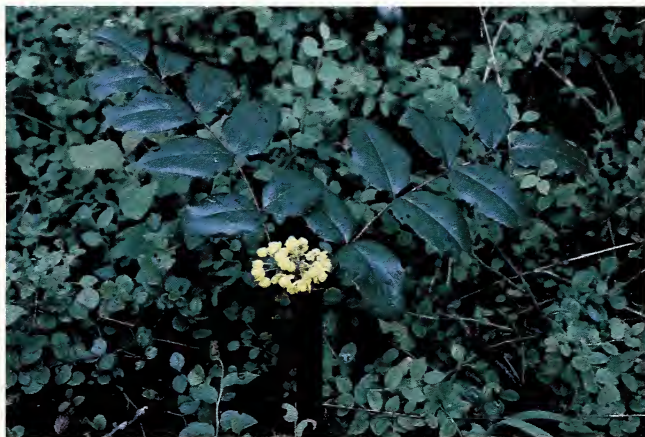
BEAQ

Range: Widespread in the Pacific Northwest.

Habitat: Low to mid-elevations on sites ranging from warm and dry to cool and moist.

Similar Species: The separation between "tall" Oregon grape (*B. aquifolium*) and "creeping" Oregon grape (*B. repens*) is not clear in much of our material. So we lump them into just Oregon grape. Most plants tend to fit *B. aquifolium* best; although there is considerable variation from plant to plant.

Remarks: The berries were eaten by the Indians, and the roots and bark were used for yellow dye and medicinal purposes. The berries make excellent jelly. Unpalatable. Early to mid successional.



Oregon Grape

Berberis aquifolium

BEAQ

Habit: An evergreen, generally erect, holly-like shrub up to 3 feet tall.

Description: *Leaves:* evergreen, holly-like, usually shiny, with 5-9 leaflets that are twice as long as broad with spinulose-serrate to spinose margins turning shades of yellow and red before drying or in winter. *Stems:* stiff, with alternate branches; the inner bark is bright yellow in color. *Flowers:* (March-May) bright yellow and clustered. *Fruits:* deep blue, glaucous berries.



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Cascade Oregon Grape

Barberry Family

Berberis nervosa

BENE

Family Berberidaceae

Range: Almost entirely restricted to the Cascades but occasionally found in the Rocky Mountains and the Blue Mountains of Oregon.

Habitat: A very shade tolerant shrub of well drained sites within the mountain hemlock, silver fir, western hemlock and grand fir series. Most common and abundant on the Wenatchee National Forest. It generally occurs on more moist sites than Oregon grape (*B. aquifolium*).

Similar Species: May be confused with the other Oregon grapes but the leaves are dull, not shiny, with many more leaflets. The leaves are clustered on a very short, upright stem.

Remarks: The berries were eaten by the Indians, and the roots and bark were used for yellow dye and medicinal purposes. The berries make excellent jelly. Unpalatable. Mid to late successional.



Cascade Oregon Grape

Berberis nervosa

BENE

Habit: A low, evergreen, strongly rhizomatous shrub with pinnately compound leaves; rarely over 2½ feet tall.

Description: *Leaves:* evergreen, holly-like with coarsely serrate-spinulose margins, 10 to 16 inches long, dull green with 11-21 leaflets. *Stems:* very short, upright; the inner bark is bright yellow.

Flowers: (March-June) terminal spikes of bright yellow flowers.

Fruits: dark blue, glaucous berries about ¼ inch in diameter.



Redstem Ceanothus

Buckthorn Family

Ceanothus sanguineus

CESA

Family Rhamnaceae

Range: Widespread in the Cascades and Rocky Mountains but not known from the Okanogan National Forest.

Habitat: Dry to moist sites with well-drained soils in partially shaded stands or in openings; often following fire. Most common on sites within or below the grand fir series on the Colville and Wenatchee National Forests.

Similar Species: Easily confused with snowbrush ceanothus (*C. velutinus*) but redstem is deciduous instead of evergreen and the new stems are reddish in color.

Remarks: Fixes nitrogen and is good browse for big game. Highly palatable to wild and domestic ungulates. Early successional. A fire related species whose seeds require heat treatment or scarification for germination.



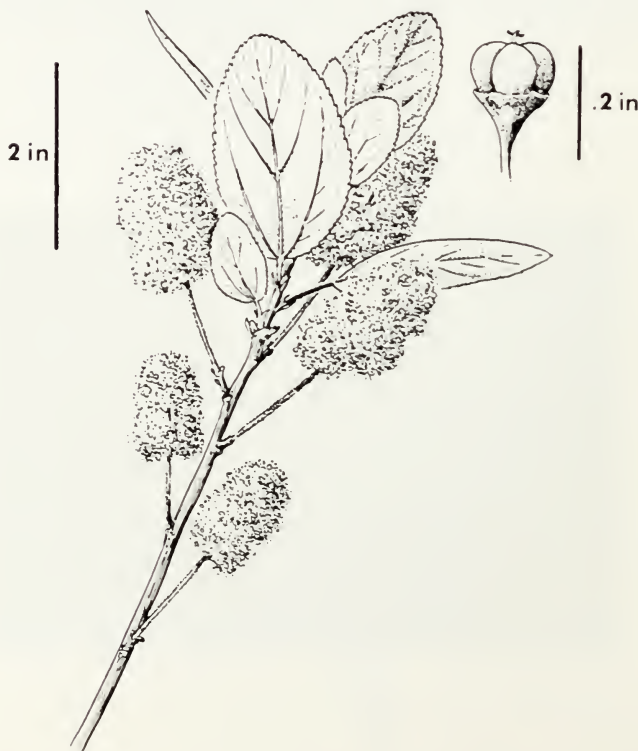
Redstem Ceanothus

Ceanothus sanguineus

CESA

Habit: An erect, loosely branched, deciduous shrub, 3 to 10 feet tall; commonly forming thickets.

Description: *Leaves:* deciduous, alternate, dark green above, glabrous and prominently 3-veined; 1 to 3½ inches long with serrate margins on a 1 inch petiole. *Stems:* slender, glabrous, alternate branching with purplish-red bark. *Flowers:* (May-June) small, white, dense clusters near the twig ends. *Fruits:* small, hard, three-celled capsules.



Snowbrush Ceanothus

Buckthorn Family

Ceanothus velutinus

Family Rhamnaceae

CEVE

Range: Widespread from British Columbia to Colorado.

Habitat: A low to mid elevation species; typically on burned sites. Prefers open, sunny stands on glacial drift. It normally dies out from shading as tree canopy cover increases.

Similar Species: Easily confused at first glance with redstem ceanothus (*C. sanguineus*) but snowbrush ceanothus is evergreen with greenish stems with shiny and strongly scented leaves.

Remarks: It fixes nitrogen, and may play an important role in nutrient cycling after catastrophic fires. Indicates past fires and the density and vigor are roughly correlated with the time since burning (young and vigorous plants indicate recent fire). Seeds require scarification for germination. A tea can be made from the flowers. The leaves and flowers can be used to make a lather. Also known as buckbrush or varnish-leaf ceanothus. Low to moderate palatability. Early successional.



Snowbrush Ceanothus

Ceanothus velutinus

CEVE

Habit: A heavily scented, erect to spreading, evergreen shrub; 2 to 10 feet tall.

Description: *Leaves:* evergreen, glossy above (appearing varnished, gummy) paler below and finely glandular-serrate with 3 prominent veins from the base. They are alternate, thick, often curled and $1\frac{1}{2}$ to $2\frac{1}{2}$ inches long. *Stems:* with alternate branching; the bark is green and smooth. *Flowers:* (June-August) small and white in pyramid shaped clusters. *Fruits:* small, hard, three-celled capsules.



Western Prince's Pine

Heath Family

Chimaphila umbellata* var. *occidentalis

CHUMO

Family Ericaceae

Range: Circumboreal and widespread across the northern United States.

Habitat: A mid elevation species that prefers moist and cool conditions. It does not extend into dry and hot Douglas-fir sites or the coldest and wettest subalpine fir sites. Indicates good to excellent sites for growth of Douglas-fir.

Similar Species: May be confused with little prince's pine (*C. menziesii*), which is smaller in stature, has leaves that are widest toward the base, and fewer flowers.

Remarks: Sensitive to fire but will regenerate from rhizomes to pre-burn levels; presumably if the fire has not been so hot that the shallow rhizomes are killed. A tea made from the leaves was used by Okanogan and other Indians for medicinal purposes; and is a "refreshing drink" when chilled. It has been used as an ingredient in soft drinks. Unpalatable. Mid to late successional.



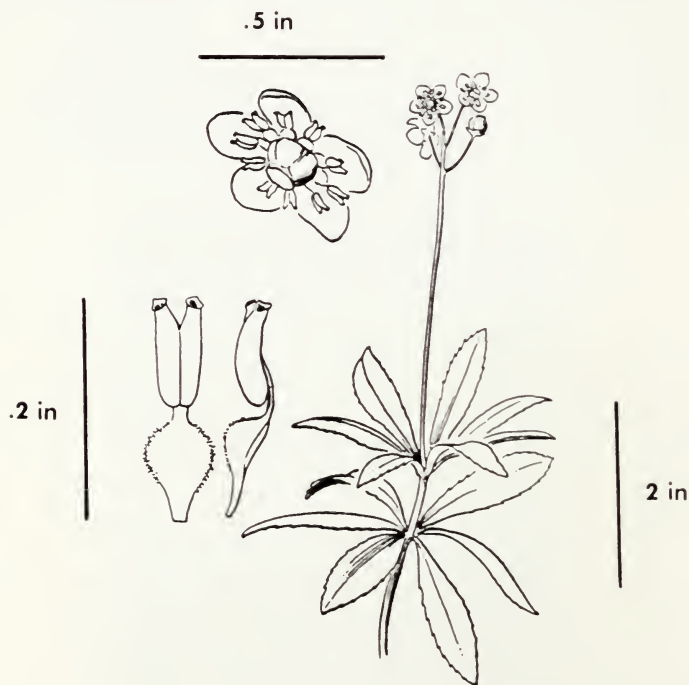
Western Prince's Pine

Chimaphila umbellata var. *occidentalis*

CHUMO

Habit: A rhizomatous, low-growing, slightly woody, evergreen subshrub; 4 to 11 inches tall.

Description: *Leaves:* serrated, whorled, 1 to 3 inches long, leathery, dark green, shiny and widest near the tip. *Stems:* yellowish-green in color and slightly woody. *Flowers:* (June-August) in groups of 5-15 and are whitish-pink to rose colored. Unlike little prince's pine the filaments are not hairy. *Fruits:* five-celled capsules with very small seeds.



Bunchberry Dogwood

Dogwood Family

Cornus canadensis
Family Cornaceae

COCA

Range: Widespread in Cascades and Rocky Mountains.

Habitat: Indicates moist and cool to frosty conditions with more moisture and frost than found in the Douglas-fir and ponderosa pine series. Typically in sheltered, concave areas with well drained soils.

Similar Species: Not easily confused with any other species. The leaf venations are typical of other dogwood species but the low subshrub form is distinctive.

Remarks: An excellent landscape species. The berries are edible but may have a laxative effect. Indians used the it for a variety of medicinal purposes. Unpalatable. Mid to late successional.



Bunchberry Dogwood

Cornus canadensis

COCA

Habit: A low, widely rhizomatous subshrub; 2 to 8 inches tall.

Description: *Leaves:* evergreen, 5-7 in a terminal whorl; 1 to 3 inches long with prominent, distinctive venation, the veins arching towards the leaf tips. *Stems:* slender, erect, slightly woody, reddish to greenish in color with fine hairs all pointing in the same direction.

Flowers: (June-August) subtended by four (7) white, pinkish or purplish-tinged petal-like bracts in a single terminal cluster. *Fruits:* bright red, fleshy "berries" (drupes), clustered at the top of the stem.



Red-osier Dogwood

Dogwood Family

Cornus stolonifera

Family Cornaceae

COST

Range: Widespread throughout much of North America.

Habitat: Restricted to wet soils and is typical of river and stream banks. Indicates some of the wettest sites that support trees. Most common near free-flowing water and not normally in stagnant water.

Similar Species: May be confused with willows but the red bark, opposite branching and leaf venation are distinctive.

Remarks: An excellent landscape plant. The berries were eaten by the Indians and the inner bark was mixed with other plants for smoking. It had medicinal uses and various parts of the plant were used for implements and rope. Moderately palatable to deer. Early successional.



Red-osier Dogwood

Cornus stolonifera

COST

Habit: A many-stemmed shrub, 6 to 20 feet tall, commonly spreading by the stems taking root if they touch the ground (layering).

Description: *Leaves:* opposite, deciduous, 2 to 5 inches long with 5-7 prominent parallel veins upcurving near the margins. *Stems:* bright red to reddish-purple with opposite branching; pointed, red buds have a distinctively enlarged base. *Flowers:* (May-July) small, white; in flat-topped terminal clusters. *Fruits:* small, white, bitter "berries" (drupes).



Slender Wintergreen

Heath Family

Gaultheria ovatifolia

GAOV

Family Ericaceae

Range: Mainly in the Cascade and Olympic mountains but occasionally east to northern Idaho and Montana.

Habitat: Moist and cold places at middle to upper elevations usually with silver fir and mountain hemlock.

Similar Species: May tend to hybridize with alpine wintergreen (*G. humifusa*) forming plants of intermediate characteristics. Many of the plants observed had characters of both species so we refer to all of them as *G. ovatifolia*

Remarks: Makes an excellent ground cover. Unpalatable. Mid to late successional.



Slender Wintergreen

Gaultheria ovatifolia

GAOV

Habit: Low, mat forming evergreen subshrub; seldom over 2 inches tall.

Description: *Leaves:* ovate, acute, leathery and less than 1 to nearly 2 inches long. The margins are thickened and usually conspicuously serrulate. *Stems:* slender and copiously brownish-hairy.

Flowers: (June-August) solitary in leaf axils, urn-shaped, white or pinkish in color. *Fruits:* bright red berries.



Ocean-spray

Rose Family

HODI

Holodiscus discolor

Family Rosaceae

Range: Widespread in the Pacific Northwest.

Habitat: A mid elevation species typical of very rocky soils and southerly aspects on warm, mesic to dry sites. Widespread and occasionally abundant; especially in association with ninebark (*Physocarpus malvaceus*) and mountain snowberry (*Symphoricarpos oreophilus*).

Similar Species: Not easily confused with any other species. The leaf shape and inflorescence are distinctive.

Remarks: Resprouts after a fire. The very hard wood was used by the Indians for tools and weapons. Low palatability. Early to mid successional.



Ocean-spray

Holodiscus discolor

HODI

Habit: A generally erect shrub; 3 to 12 feet tall.

Description: **Leaves:** alternate, 1 to 3 inches long, very coarsely serrate (or shallowly lobed) somewhat pubescent on the upper surface and hairy below. **Stems:** arch upward and outward from the base creating a distinctive appearance. The bark is deep grayish-red and strongly ridged on young stems. **Flowers:** (June-August) tiny, cream colored in dense terminal clusters that persist over winter; turning brown with age. **Fruits:** small, hard "nuts" (achenes).



Western ledum

Heath Family

Ledum glandulosum

LEGL

Family Ericaceae

Range: British Columbia to California east to the Rocky Mountains. Mainly east of the Cascades and most common on the Okanogan National Forest.

Habitat: An upper elevation species indicative of wet and cold conditions. Frequently found in areas of high snow pack and wet soils or along streams. Often on very acid and poor organic soils.

Similar Species: May be confused with Cascades azalea (*Rhododendron albiflorum*) or rusty menziesia (*Menziesia ferruginea*) as they may grow on the same site and have a similar growth form. Western ledum is evergreen and the flower petals are distinct or nearly so while the other two species are deciduous and have connected petals.

Remarks: Leaves and twigs were used by Indians to make tea. It is toxic to sheep so use as a drink seems unwise. Also known as Labrador tea or trapper's tea. Unpalatable. Mid to late successional.



Western ledum

Ledum glandulosum

LEGL

Habit: An erect, evergreen shrub; 2 to 7 feet tall.

Description: **Leaves:** alternate (appear whorled) leathery, 1 to 2 inches long, dark green above and light green with tiny yellow glands beneath. The leaf is tipped with a yellow or black gland and the margins are entire and often rolled under. **Stems:** alternate branching, finely pubescent and glandular. **Flowers:** (June-August) white, petals separate, in terminal clusters. **Fruits:** round to egg-shaped, puberulent and glandular capsules.



Twinflower

Honeysuckle Family

Linnaea borealis var. longiflora

LIBOL

Family Caprifoliaceae

Range: Circumboreal, mainly in forested areas.

Habitat: Characteristic of moist, moderate to cool environments at mid to upper elevations. Does best in partial to full shade. Abundance indicates relatively little soil drought. An indicator in several different associations.

Similar Species: May be confused with bearberry (*Arctostaphylos uva-ursi*) but the latter has alternate, entire leaves. Twinflower is easy to remember once learned.

Remarks: A handsome ornamental groundcover. Unpalatable. Mid to late successional.



Twinflower

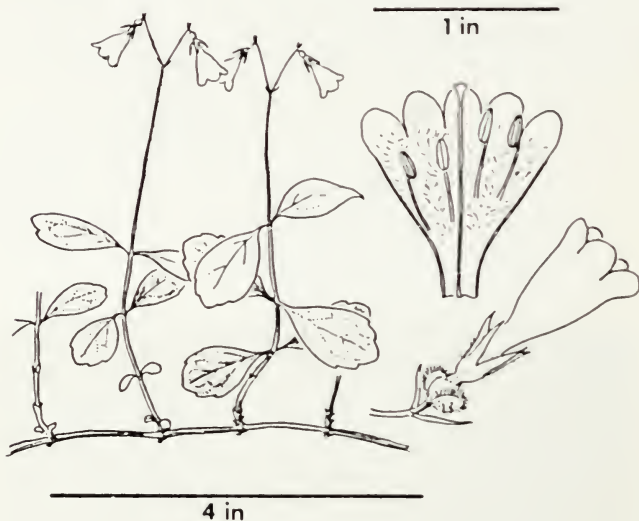
Linnaea borealis var. *longiflora*

LIBOL

Habit: A low creeping, evergreen subshrub; 2 to 5 inches tall.

Description: *Leaves*: opposite, firm, shiny, shallowly toothed and about $\frac{1}{2}$ inch long. *Stems*: slender but woody and root at the nodes.

Flowers: (June-September) $\frac{1}{4}$ inch long, pinkish, bell-shaped in pairs at the tips of erect flower stalks. *Fruits*: small, dry seeds.



Utah Honeysuckle

Honeysuckle Family

Lonicera utahensis

LOUT2

Family Caprifoliaceae

Range: Widespread; especially in the Rocky Mountains.

Habitat: A widely distributed but rarely abundant forestland shrub in all but the driest and coldest conditions. Most common on sites more mesic than the Douglas-fir series.

Similar Species: May be confused with other honeysuckle species but they have pointed leaves or are climbing vines. Easily confused with snowberries but they have paler leaves and much different flowers and fruits. See common snowberry (*Symphoricarpos albus*) description.

Remarks: The berries are edible (some honeysuckle berries are reputed to be toxic), but not especially palatable. Leaves were used by Northwest Indians for cold medicines, sore throats and other medicinal purposes. Unpalatable to livestock, moderately palatable to deer. Mid successional.



Utah Honeysuckle

Lonicera utahensis

LOUT2

Habit: A widely branching, deciduous shrub; 3 to 7 feet tall

Description: **Leaves:** bluish-green, opposite, generally glabrous above and hairy below. **Stems:** opposite branching, solid (not hollow in the center) with gray bark. **Flowers:** (May-July) pale yellow and occur in pairs in the leaf axils. **Fruits:** paired, bright red berries.



Rusty Menziesia

Heather Family

Menziesia ferruginea

Family Ericaceae

MEFE

Range: Widespread in the more maritime climatic areas of the Pacific Northwest.

Habitat: Found only in cool to cold and wet environments; commonly on northerly aspects at upper elevations where heavy snowpacks cause the stems to bend downslope. It is not as common as Cascade azalea (*Rhododendron albiflorum*) and has a more narrow ecologic amplitude.

Similar Species: Similar to and commonly associated with Cascade azalea but the latter has large, single, white flowers and shiny green leaves. It may also be confused with western ledum (*Ledum gladiolosum*) which has leathery, evergreen leaves and distinct flower petals.

Remarks: Also known as fool's huckleberry. Mildly poisonous to livestock, low palatability to deer and elk. Late successional.



Rusty Menziesia

Menziesia ferruginea

MEFE

Habit: A straggling, deciduous shrub, 2 to 7 feet tall; often prostrate downhill on steep slopes.

Description: *Leaves:* alternate (appear whorled near branch ends), thin, not shiny and light green to blue-green. They have a strong skunk-like odor when crushed and are brownish-hairy and glandular on both sides with finely serrated margins. The midvein protrudes slightly from the leaf tip. *Stems:* gray-reddish brown with shreddy bark. *Flowers:* (May-August) small and pinkish to white in a flat-topped cluster from last year's growth. *Fruits:* many seeded capsules.



Devil's Club

Ginseng Family

Oplopanax horridum

OPHO

Family Araliaceae

Range: Widespread in the Pacific Northwest and in Michigan and Ontario.

Habitat: Typically in moist to wet drainageways or on slopes with seepage at mid to upper elevations. Commonly associated with lady-fern which can tolerate somewhat higher and more stagnant water tables.

Similar Species: Not easily confused with any other species.

Remarks: A most aptly named species! The Indians treated consumption and a dry cough with a tea made from the roots or stems. Elk relish it in spite of the spines. Common English ivy (*Hedra helix*) and wild sarsaparilla (*Aralia nudicaulis*) are the only other members of this unusual family in the Pacific Northwest. Late successional.



Devil's Club

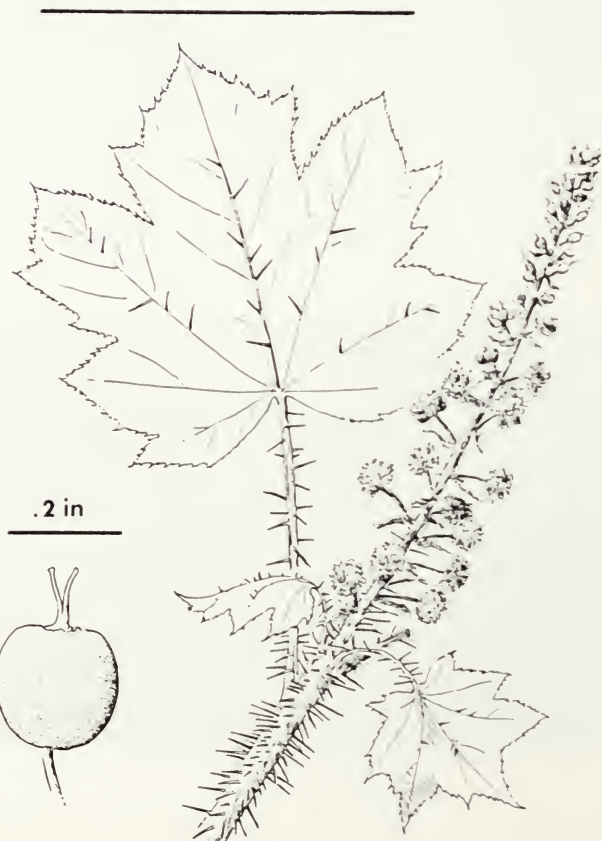
Oplopanax horridum

OPHO

Habit: A somewhat prostrate to erect, fiercely armed, deciduous shrub; 3 to 12 feet tall.

Description: *Leaves:* 5 to 15 inches in diameter, palmately 7-9 lobed ("maple leaf"-like) and armed with yellowish spines up to 1 inch long. *Stems:* thick, punky and profusely armed with prickles or spines. *Flowers:* (May-July) small and greenish-white in elongate terminal clusters. *Fruits:* bright red berries about 1/4 inch in diameter.

4 in



Pachistima

Staff-tree Family

Pachistima myrsinities

PAMY

Family Celastraceae

Range: British Columbia to California and east to the Rocky Mountain states; from the mountains to near the coast in Washington.

Habitat: Forested stands from open ponderosa pine and shrub-steppe types at low elevations to subalpine conditions. It commonly occurs as a sparse, multi-stemmed low shrub. Most abundant on basaltic or metamorphic parent materials but not restricted to these conditions.

Similar Species: May be confused with bearberry (*Arctostaphylos uva-ursi*) but the latter has alternate leaves with no serrations.

Remarks: An excellent landscape plant that may be shaped into a low hedge. Palatable, often heavily browsed; especially by deer. It is the most common member of this unusual family in the Pacific Northwest. The other two species are wahoo or burning bush (*Euonymus occidentalis*) and green-bush (*Glossopetalon nevadense*). Early to late successional.



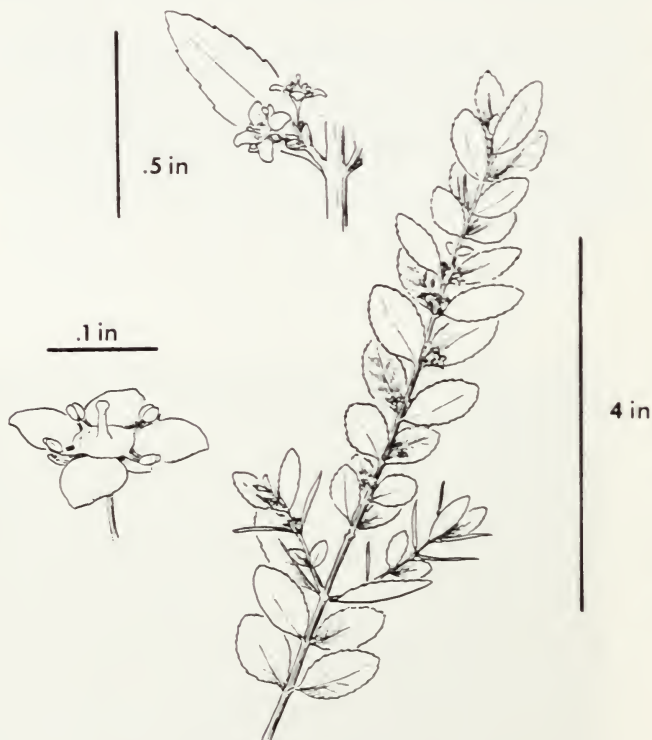
Pachistima

Pachistima myrsinites

PAMY

Habit: An evergreen shrub up to 3 feet tall

Description: *Leaves*: opposite, glossy above, slightly serrated, leathery and about 1 inch long. *Stems*: opposite branching, brown in color and ridged. *Flowers*: (April-June) small, 4-merous, maroon, in axillary clusters. *Fruits*: small, dark brown seeds.



Red Mountain-heath

Heath Family

Phyllodoce empetrifomis

PHEM

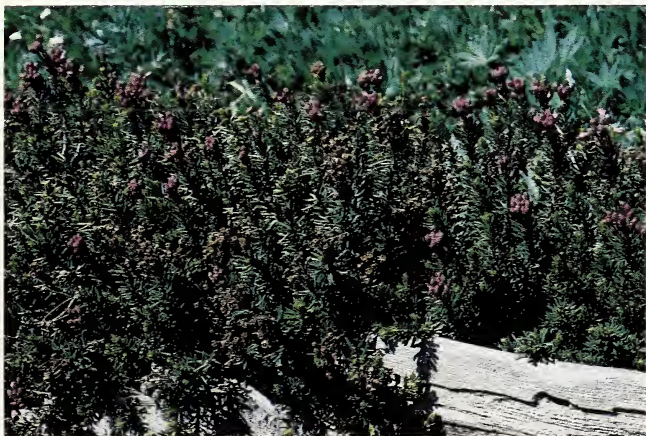
Family Ericaceae

Range: Alaska to California and east to Colorado.

Habitat: Alpine and subalpine environments in very cold, snowy conditions. Indicates deep, persistent snowpacks with severe tree regeneration and revegetation difficulties.

Similar Species: Easily confused with other mountain heaths and heathers; especially yellow mountain-heath (*P. glanduliflora*). The most evident differences are in the colors of the flowers though this is not always available or infallible. However they both reflect similar environmental conditions and often hybridize.

Remarks: A very attractive plant but not suitable for transplanting. Horticultural stock of similar appearance are available. Unpalatable. Mid to late successional.



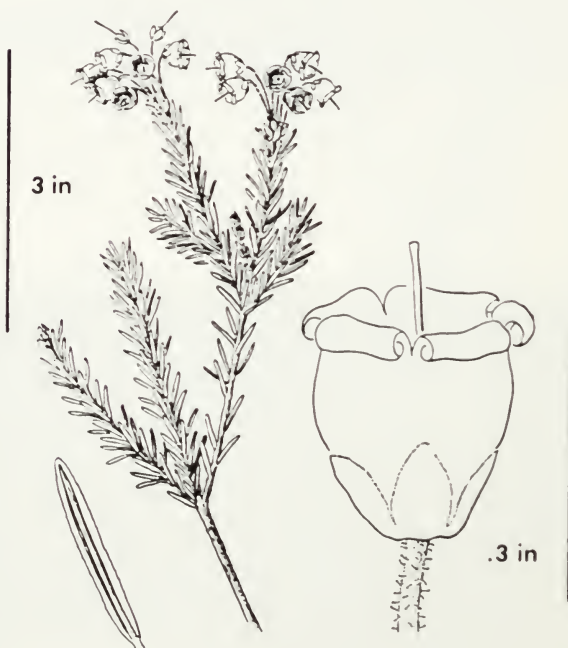
Red Mountain-heath

Phyllodoce empetriformis

PHEM

Habit: A matted, many-branched, evergreen shrub, 4 to 16 inches tall.

Description: *Leaves:* needle-like, alternate, evergreen and about $\frac{1}{2}$ inch long; with a prominent groove on the under side and the leaf margins are strongly rolled under. *Stems:* young stems are finely short-hairy and often glandular; soon becoming glabrous. *Flowers:* (June-August) bell-shaped, deep pinkish-rose and clustered at the stem tips. *Fruits:* capsules that split from the tip downward into five segments.



Ninebark

Rose Family

Physocarpus malvaceus

PHMA

Family Rosaceae

Range: A Rocky Mountain species not seen west of the Okanogan River.

Habitat: Typical of hot-dry to moderately moist conditions. Most common on south to west slopes with very rocky soils. An indicator in several different associations especially on the Colville National Forest. Widespread and often abundant within most of its range. Indicates fairly good growth for Douglas-fir but tree regeneration may be difficult because ninebark competes with young trees.

Similar Species: The foliage superficially resembles some currants or gooseberries; but the flowers are much different as are the fruits. Ninebark has conspicuous shreddy bark; hence the common name.

Remarks: Indians used the wood for bows and some medicinal purposes. Low palatability. Early to late successional.



Ninebark

Physocarpus malvaceus

PHMA

Habit: A spreading to erect, deciduous shrub; 2 to 7 feet tall.

Description: **Leaves:** 3-5 lobed, 1 to 3 inches wide, alternate and with stellate pubescence on the under surface. **Stems:** angled with peeling, shedding, brownish bark. **Flowers:** (June-July) white in terminal clusters. **Fruits:** inflated capsules in groups of five.



Bitterbrush

Rose Family

PUTR

Purshia tridentata

Family Rosaceae

Range: Widespread east of the Cascades to the southern Rocky Mountains.

Habitat: From low elevation shrub-steppe upward to dry mid-elevation forests. Most abundant on sandy soils under 4,000 feet elevation. In dry, hot-warm environments.

Similar Species: Easily confused by the casual observer with sagebrush (*Artemisia* spp.); especially at a distance. The leaves are similar to those of sagebrush in that they are three lobed but bitterbrush leaves are darker green and lack the distinctive sagebrush odor.

Remarks: A nitrogen fixing shrub. Very sensitive to fire and does not resprout after hot fall burns and only weakly in cool spring burns. However, it is common in known fire environments so fire may be essential for long term survival. Highly palatable, an important browse for ungulates. Early to late successional. The herbage and seeds are very bitter to the taste (hence bitterbrush). Indians used it for firewood and the bark for weaving.



Bitterbrush

Purshia tridentata

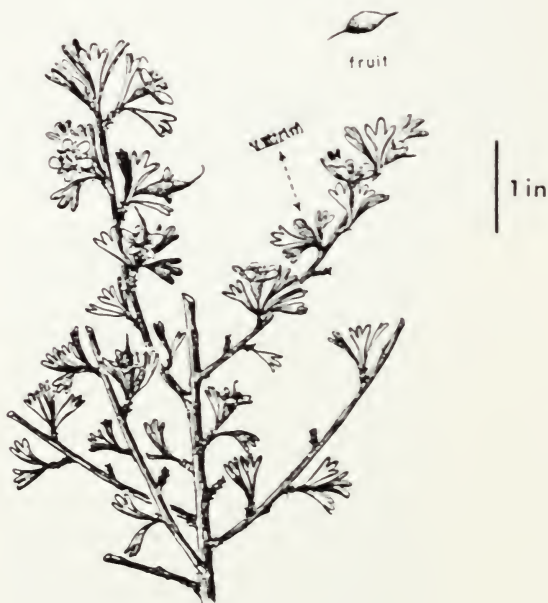
PUTR

Habit: An erect, stiffly branched, deciduous shrub, 2 to 6 feet tall

Description: *Leaves*: alternate, deeply three-toothed (tridentate) green above, grayish-hairy beneath and commonly rolled under
Stems: rigid, especially after being grazed enough to be hedged.

Flowers: (April-June) pale yellow and $\frac{1}{2}$ to $\frac{3}{4}$ inches in diameter

Fruits: single, spindle-shaped seeds (achenes)



Alpine Pyrola

Heath Family

Pyrola asarifolia

Family Ericaceae

PYAS

Range: Widespread in northern North America.

Habitat: Most common in cool to cold and moist mid to upper elevation sites.

Similar Species: Resembles other pyrolas, but generally more robust and larger leaved than the other common species. Most easily confused with white-vein pyrola (*P. picta*) but the latter, as the name indicates, has white mottling along the main leaf veins.

Remarks: Usually found without flowers in heavily shaded stands where it is rooted in the duff. Unpalatable. Late successional.



Alpine Pyrola

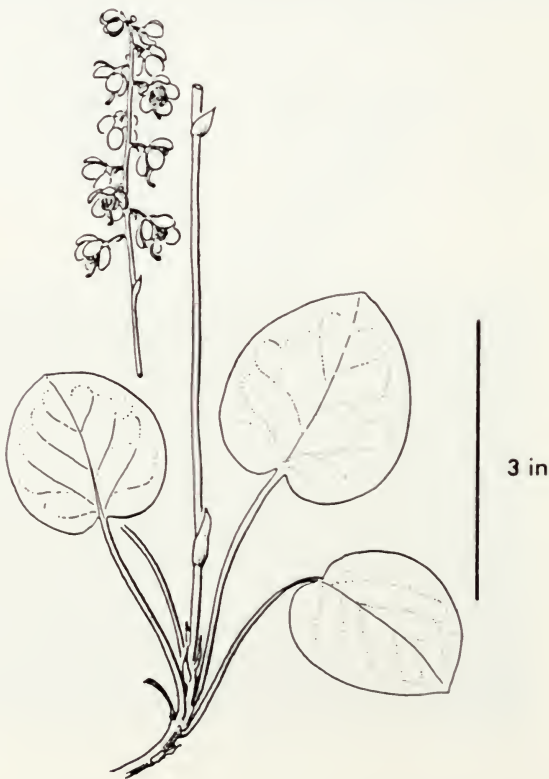
Pyrola asarifolia

PYAS

Habit: A rhizomatous, perennial subshrub, with flowering stems 6 to 16 inches tall.

Description: *Leaves:* all basal, circular to elliptic, leathery, shiny dark green above and purplish beneath; 1 to 3 inches wide, with the petiole as long as the blade. No mottling occurs along the midvein.

Stems: slender and semi-woody *Flowers:* (June-September) 10-25 pinkish to purplish-red in color, borne in an elongate terminal raceme. The style is curved and bent to one side. *Fruits:* five-celled, dry capsules.



Sidebells Pyrola

Heath Family

Pyrola secunda

Family Ericaceae

PYSE

Range: Widespread in North America.

Habitat: Most common in mid to upper elevation cool and moist forests; preferring (as with most other pyrolas) a thick duff layer.

Similar Species: Resembles other pyrolas but the color and the flowers all turned to one side make it easily recognized.

Remarks: Usually found without flowers in dense, heavily shaded stands. Unpalatable. Late successional.



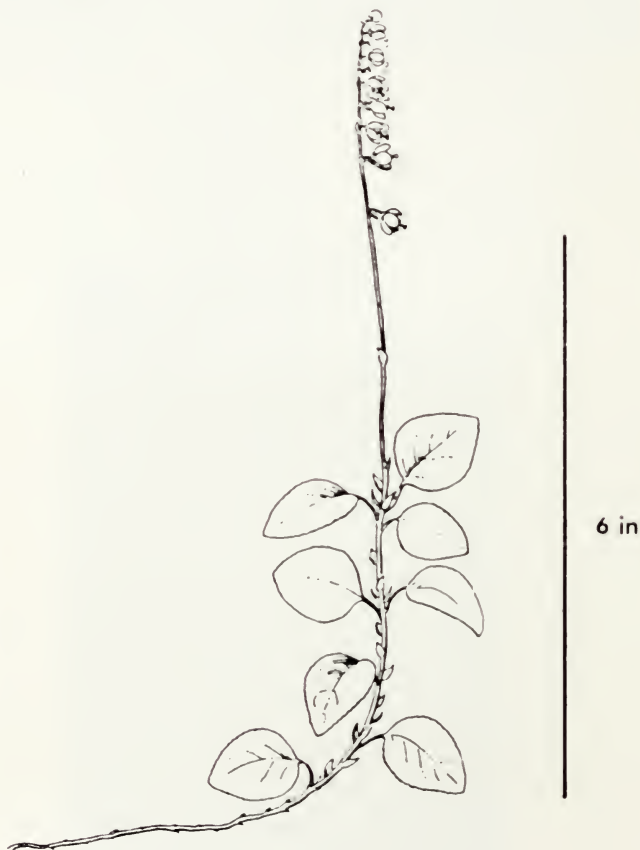
Sidebells *Pyrola*

Pyrola secunda

PYSE

Habit: A low, evergreen, rhizomatous subshrub with flowering stems to 6 inches tall; rooted in the duff.

Description: **Leaves:** numerous, about 2 inches long, serrated, shiny green above and paler green below. **Stems:** slender, semi-woody and pale green in color. **Flowers:** (June-August) 6-20, mostly on one side (secund) of the single flower stalk; pale green to whitish. **Fruits:** dry, 5-celled capsules.



Cascade Azalea

Heath Family

Rhododendron albiflorum

RHAL

Family Ericaceae

Range: British Columbia south to Oregon and east to Montana.

Habitat: An upper elevation species found mostly on cold north slopes where there are heavy snow packs. It indicates cold, wet soils with low to moderate regeneration difficulty.

Similar Species: Resembles rusty menziesia (*Menziesia ferruginea*) and western ledum (*Ledum glandulosum*). Western ledum is the only evergreen member of this group. The leaves of Cascade azalea are bright green above with reddish hairs as contrasted with the bluish-green leaves of rusty menziesia. The placement, size, shape and color of the flowers are all distinctive between the three species. See western ledum and rusty menziesia discussions.

Remarks: The headwaters of many streams are dominated by stands of Cascade azalea. It is often associated with rusty menziesia on northerly slopes where they are both prostrated downslope from heavy snowpacks. Unpalatable, the entire plant is poisonous to humans and livestock. Late successional.



Cascades Azalea

Rhododendron albiflorum

RHAL

Habit: An erect to prostrate, deciduous shrub; 3 to 7 feet tall.

Description: **Leaves:** entire, alternate (but appear whorled), 2 to 4 inches long, with reddish hairs on the shiny, bright green upper surfaces. **Stems:** young twigs are covered with long reddish-brown hairs. **Flowers:** (June-August) white, in clusters of 3-4 and hang beneath the leaves along the stems. **Fruits:** five-celled capsules.



Wax Currant

Currant or Gooseberry Family

Ribes cereum

RICE

Family Grossulariaceae

Range: East Cascades through the Rocky Mountains.

Habitat: Commonly found at or near the lower forest margin on hot, dry sites.

Similar Species: Not easily confused with any other species.

Remarks: Our only low elevation currant. Indicates severe difficulties for regeneration because of soil drought. The berries are edible but not especially palatable. The specific epithet *cereum* means waxy and refers to the waxy glands on the leaves. Low in palatability. Early to mid successional.



Wax Currant

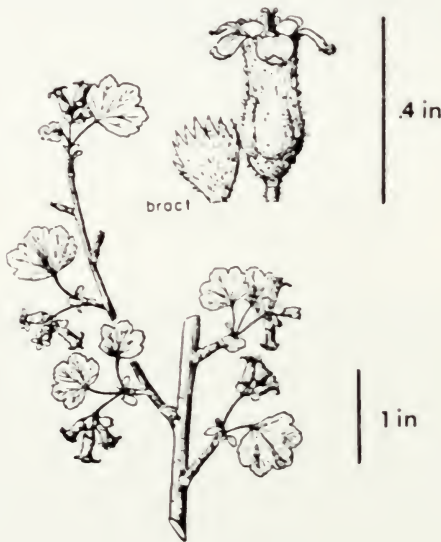
Ribes cereum

RICE

Habit: An unarmed, much branched, deciduous shrub, usually less than 6 feet tall.

Description: *Leaves:* alternate, numerous, small ($\frac{3}{8}$ to $1\frac{1}{4}$ inches long), weakly 3-5 lobed, whitish-waxy, normally glandular, mostly at the ends of short, spur-like twigs. *Stems:* alternate, new branches are finely hairy becoming grayish to reddish-brown with age.

Flowers: (April-June) greenish-white, white or pinkish, and sticky in few-flowered clusters. *Fruits:* dull to bright red berries.



Prickly Currant

Currant or Gooseberry Family

Ribes lacustre

Family Grossulariaceae

RILA

Range: Widespread in North America.

Habitat: Cool-cold and wet environments at upper elevations. Indicates moist to very wet sites.

Remarks: Prickly currant is our most common currant but does not extend to lower elevation sites. An alternate host for white pine blister rust. The fruits are relatively palatable (?). Indians gathered the fruits and used the dried stems to make a peppermint flavored tea for colds and diarrhea. Another common name is swamp currant. Unpalatable. Mid to late successional.



Prickly Currant

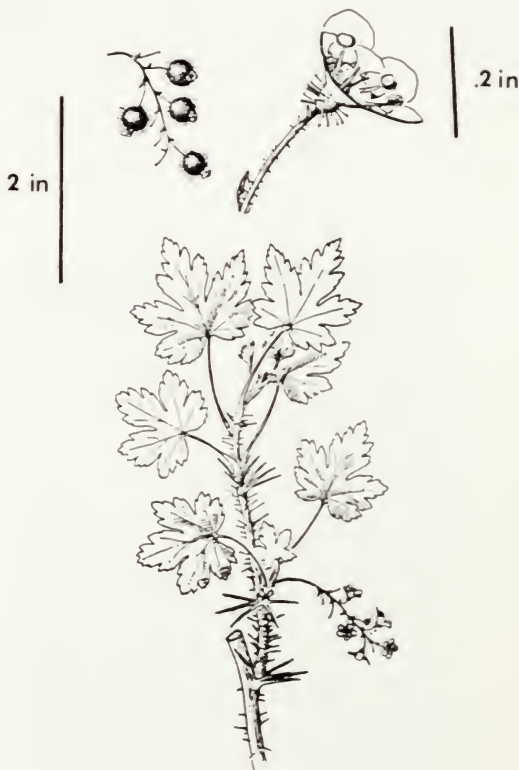
Ribes lacustre

RILA

Habit: An erect to spreading, prickly, deciduous shrub, 3 to 7 feet tall.

Description: *Leaves:* alternate, 1 to 2 inches wide, 5-lobed and maple-leaf shaped. *Stems:* with many sharp, slender prickles and larger nodal spines. *Flowers:* (April-July) with reddish petals.

Fruits: small, dark purple berries covered with glandular hairs



Sticky Currant

Currant or Gooseberry Family

Ribes viscosissimum

RIVI

Family Grossulariaceae

Range: Widespread but mainly east of the Cascade crest; south to California and east to Colorado.

Habitat: Dry sites within the Douglas-fir series to near upper timberline.

Similar Species: The leaves are similar to several other currants except they are very sticky to the touch.

Remarks: An aggressive pioneer species in some areas. Moderately resistant to fire and regenerates to pre-burn levels from seeds and stem sprouts in 3-5 years. An alternate host for white pine blister rust. The berries are apparently edible but unpalatable. Ours is the variety *viscosissimum*. Unpalatable. Early to mid successional.



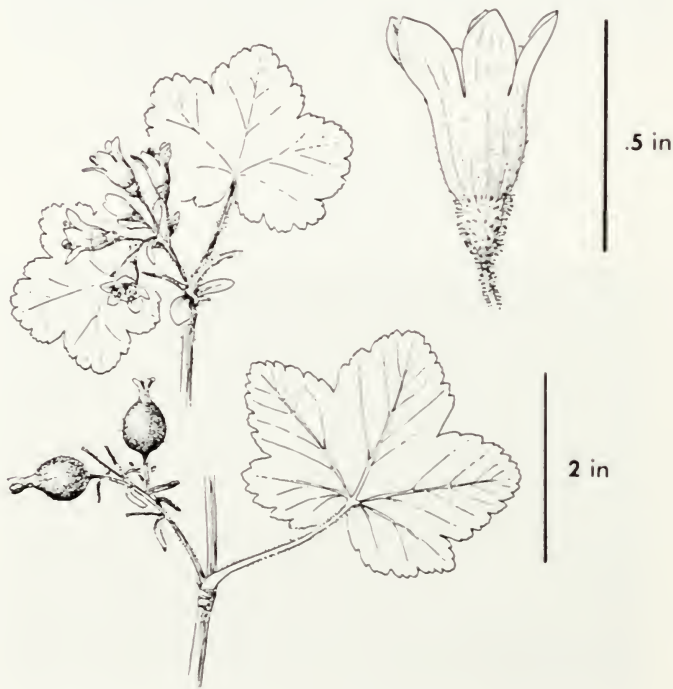
Sticky Currant

Ribes viscosissimum

RIVI

Habit: An erect to spreading, often straggly, deciduous shrub to 7 feet tall.

Description: *Leaves:* 1 to 3 inches broad, alternate, 3-5 lobed, coarsely toothed and covered with soft sticky hairs on both surfaces. *Stems:* hairy and sticky when young; aging to dark reddish-brown and shreddy when old. *Flowers:* (May-June) 10-12, bell-shaped, sticky, about 1/2 inch long, greenish-white with a pink tinge and borne in a raceme. *Fruits:* a few black berries (currants) covered with short stiff hairs.



Baldhip Rose

Rose Family

Rosa gymnocarpa

Family Rosaceae

ROGY

Range: Widespread in the Pacific Northwest; mainly west of the Cascades and the more moist forest environments east of the mountains.

Habitat: Representative of moist, cool environments. Mainly within grand fir, western red cedar, western hemlock and warmer silver fir forests.

Similar Species: Easily confused with other rose species; especially with Wood's rose (*R. woodsii* var. *ultramontana*). However baldhip rose is the only one that does not retain the sepals on the fruits "hips".

Remarks: The hips are considered a good source of vitamin C. Indians used rose species for religious purposes. Low to moderately palatable. Mid to late successional.



Baldhip Rose

Rosa gymnocarpa

ROGY

Habit: A slender, erect, weakly armed, deciduous shrub; 1 to 4 feet tall.

Description: *Leaves:* alternate and compound with 5-9 leaflets $\frac{1}{3}$ to $\frac{3}{4}$ inch long. The petioles are commonly glandular as are the teeth of the doubly serrate leaflet margins. *Stems:* very bristly with many weak prickles to occasionally unarmed. On young stems the prickles are noticably reddish. *Flowers:* (June-July) relatively small, light pink to deep rose; normally borne singly at the ends of the branches. *Fruits:* small, green hips; becoming scarlet or reddish when mature. The sepals are deciduous from the maturing fruit, hence "baldhip" (unlike all other local roses).



Bristly Nootka Rose

Rose Family

Rosa nutkana* var. *hispida

RONUH

Family Rosaceae

Range: Widespread species in mountains. Found on both sides of the Cascades though in two different varieties.

Habitat: Common along streams at lower elevations. Typical of warmer sites than baldhip rose (*R. gymnocarpa*) but may grow mixed with Wood's rose (*R. woodsii* var. *ultramontana*) on warm sites at low elevations.

Similar Species: Easily confused with other rose species but bristly nootka rose has large, single flowers and the foliage is not glandular. It also has the stoutest prickles "thorns".

Remarks: Ours is the variety *hispida* except perhaps in the strong maritime climatic areas where the variety *nutkana* may occur. Rose hips are a good source of vitamin C and are commonly used in jellies and teas. Low palatability. Early to mid successional.



Bristly Nootka Rose

Rosa nutkana var. *hispida*

RONUH

Habit: An armed, erect, deciduous shrub, 3 to 7 feet tall.

Description: *Leaves:* alternate and pinnately compound with odd numbered (5-7) leaflets. The leaflets are 1 to 3 inches long, green above, paler beneath and are serrate or doubly serrate. *Stems:* armed with pairs of straight to curved, stout, flattened, prickles. *Flowers:* (May-July) 2 to 3 inches across (largest of the common roses), usually solitary at the ends of branches. *Fruits:* large hips with persistent sepals.



Wood's rose

Rose Family

Rosa woodsii* var. *ultramontana

ROWOU

Family Rosaceae

Range: Widespread east of the Cascades to the mid-west in one variety or another.

Habitat: Warm-dry to cool-moist sites at lower to mid elevations.

Similar Species: Easily confused with other roses but Wood's rose has relatively small flowers in clusters of 3-5 that distinguish it from bristly nootka rose (*R. nutkana* var. *hispida*) and the sepals are persistent on the hips which separates it from the smaller-leaved baldhip rose (*R. gymnocarpa*).

Remarks: It tends to occupy environments between those of bristly nootka rose and baldhip rose but all three do not grow together. Roses were used by Indians as protective agents against bad spirits. The hips are an excellent source of vitamin C and are extensively used by wildlife. Palatable, especially to deer. Early to mid successional.



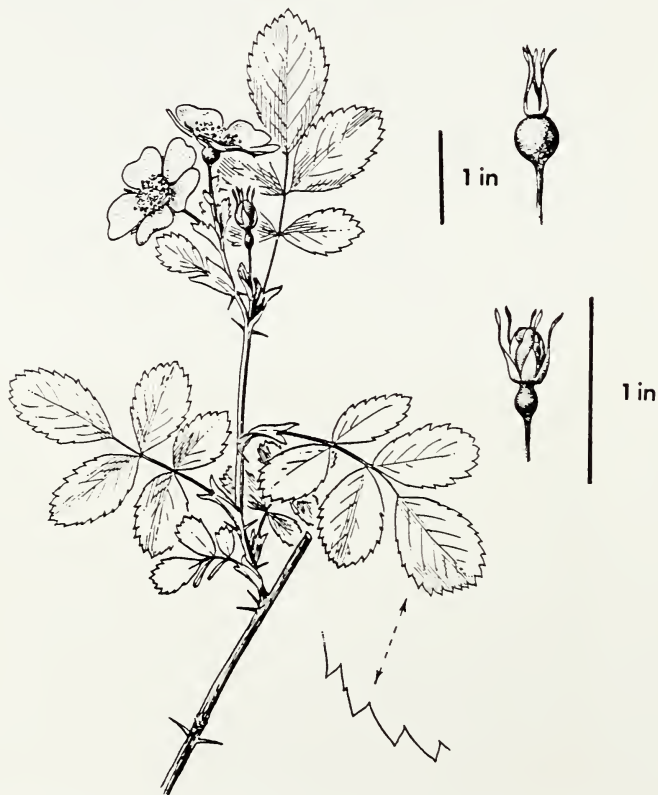
Wood's Rose

Rosa woodsii var. *ultramontana*

ROWOU

Habit: A strongly armed to nearly unarmed deciduous shrub; up to 10 feet tall.

Description: *Leaves:* glandular to glabrous with 5-9 leaflets that are singly serrate (normally). The teeth are not gland tipped. *Stems:* usually with straight to slightly curved, prickles. *Flowers:* (May-July) seldom solitary, usually in clusters of 3-5 and usually less than 1½ inches in diameter. *Fruits:* hips, with persistent sepals.



Dwarf Bramble

Rose Family

Rubus lasiococcus

Family Rosaceae

RULA

Range: In the Cascades from British Columbia to California.

Habitat: Moist, cool to cold sites at mid to upper elevations. Especially common with silver fir and mountain hemlock where snowpacks are high and persistent.

Similar Species: May be confused with five-leaved bramble (*R. pedatus*), but the latter has leaflets in fives.

Remarks: A good ground cover; easily grown. The berries are edible but tart. Unpalatable. Late successional.



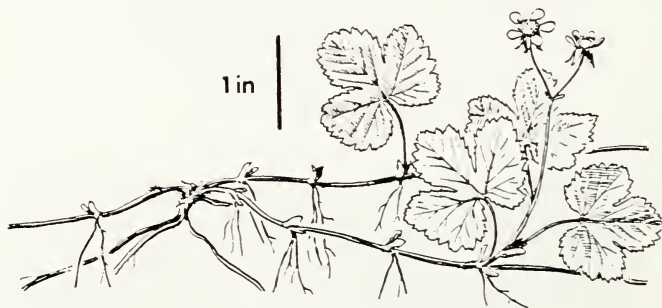
Dwarf Bramble

Rubus lasiococcus

RULA

Habit: An unarmed, trailing, perennial subshrub, with stoloniferous, freely rooting stems.

Description: *Leaves:* strawberry-like, persistent, 1 to 2½ inches across, shallowly to deeply 3-lobed and doubly serrate. *Stems:* slender, trailing, and only slightly woody. *Flowers:* (June-August) 1-2, white, on a flowering stem about 4 inches long. *Fruits:* an aggregation of semi-coherent, densely puberulent, red "berries" (drupelets).



Thimbleberry

Rose Family

Rubus parviflorus

Family Rosaceae

RUPA

Range: Alaska to California to the Great Lakes and New Mexico.

Habitat: Moist, warm to cool environments at mid elevations.

Similar Species: Not easily confused with any other species.

Remarks: Berries were eaten fresh by the Indians and the leaves and roots were used to treat acne. Low palatability. Early to mid successional.



Thimbleberry

Rubus parviflorus

RUPA

Habit: An erect, deciduous shrub; 2 to 7 feet tall.

Description: **Leaves:** alternate, best described as large, soft, and fuzzy; 2 to 6 inches across, normally 5-lobed and doubly dentate-serrate. They may occasionally be glabrous. **Stems:** mature stems are gray-brown with shredding bark. **Flowers:** (May-July) large, white in terminal clusters of 3-11 on glandular-hairy stalks. **Fruits:** bright red, thimble-shaped "berries" (drupelets).



Five-leaved Bramble

Rose Family

Rubus pedatus

Family Rosaceae

RUPE

Range: Alaska to southern Oregon and east to western Montana.

Habitat: Moist, cool to cold environments; especially within the western hemlock and silver fir series.

Similar Species: May be confused with dwarf bramble (*R. lasiococcus*) which has 3-lobed entire leaves. Five-leaved bramble tends to be on warmer sites (less persistent snowpack) than dwarf bramble but they sometimes grow together.

Remarks: An excellent ground cover, especially for shady areas. Also known as strawberry bramble. Unpalatable. Late successional.



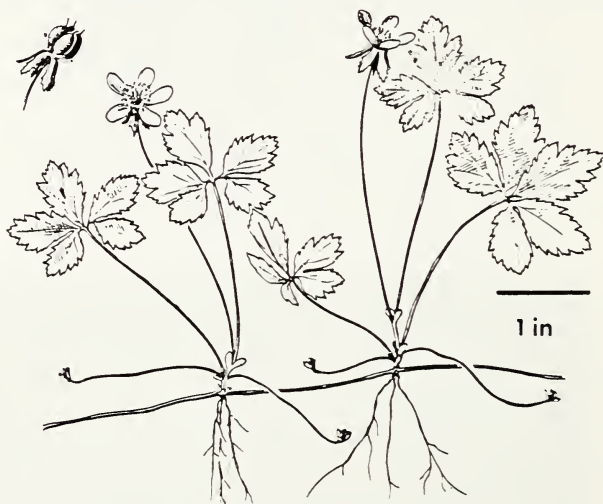
Five-leaved Bramble

Rubus pedatus

RUPE

Habit: A mat-forming, unarmed, trailing, perennial subshrub; less than 10 inches tall.

Description: *Leaves:* resemble those of strawberries except that the leaflets are usually in fives or at least appear so. The leaflet margins are doubly serrate-dentate. *Stems:* semi-woody, strongly stoloniferous and root at the nodes. *Flowers:* (May-early July) white on slender stalks, solitary and have a reflexed calyx. *Fruits:* very small, red berries (actually an aggregate of 3-6 drupelets).



Scouler Willow

Willow Family

Salix scouleriana

Family Salicaceae

SASC

Range: Widespread in western North America.

Habitat: A mid elevation species of all but the driest Douglas-fir sites. Found on open hillsides and not restricted to riparian or wet habitats.

Similar Species: Easily confused with other willow species but the spatula shaped leaves and upland environment make it easily recognized. Willows are exceedingly difficult to identify but most grow in much wetter environments than those typical of Scouler willow.

Remarks: Willow branches were commonly used by Indians for implements requiring flexible material (e.g. fish traps, basket hoops, canoe frames). The inner bark applied directly to injuries speeds healing. Willows contain salicylic acid which is used much like its derivative, aspirin (acetylsalicylic acid). Highly palatable, especially to deer. Early successional.



Scouler Willow

Salix scouleriana

SASC

Habit: A tall, deciduous shrub or small tree; 7 to 30 feet tall.

Description: *Leaves:* alternate, entire and spatulate. Mature leaves are dark green and glabrous above while glaucous with reddish hairs below. They are pointed to blunt (most common). Younger leaves may be lighter in color and larger in size. *Stems:* twigs are sparsely to densely gray-hairy and the catkins appear before the leaves. Older bark on larger stems may be somewhat wrinkled and shredding. *Flowers:* (March-June) small, inconspicuous catkins and fuzzy "pussy willows". *Fruits:* capsules.



Russet Buffaloberry

Oleaster Family

Shepherdia canadensis

SHCA

Family Elaeagnaceae

Range: Alaska to Oregon and east to the Atlantic coast.

Habitat: Typical of mid to upper elevation sites. It prefers open stands and commonly indicates past fires.

Similar Species: Not easily confused with any other species.

Remarks: A nitrogen fixing shrub which may help account for its abundance in old burns. In the same family as Russian olive (*Elaeagnus angustifolia*). The crushed berries can be beaten in water to create a froth called "Indian ice cream". Strawberries or serviceberries were added for sweetener. Also called soapberry. Unpalatable. Early successional.



Russet Buffaloberry

Shepherdia canadensis

SHCA

Habit: A spreading, deciduous, unarmed shrub; 3 to 13 feet tall.

Description: **Leaves:** opposite, entire, ovate, and 1 to 3 inches long. The upper leaf surface is dark green with silvery white hairs while the lower surface is whitish and scurfy with rusty brown spots.

Stems: older stems are brown and the younger twigs are reddish-scurfy. **Flowers:** (May-July) very small, yellow and appear with or before the leaves; the male flowers on one plant and the female flowers on another (dioecious). **Fruits:** orange to red, very juicy, translucent berries.



Mountain Ash

Rose Family

Sorbus scopulina

Family Rosaceae

SOSC2

Range: Widespread in North America.

Habitat: Most common and abundant in cool to cold and moist environments within the western red cedar, western hemlock and subalpine fir series.

Similar Species: May be confused with Sitka mountain ash (*S. sitchensis*) which has yellowish-pink to orange pubescence, unpointed leaflets serrated less than $\frac{3}{4}$ of their length and rounded flower clusters.

Remarks: Birds relish the berries while humans find them edible but relatively unpalatable. They are more desirable after a frost and have been used for jellies, jams and wines. Unpalatable. Early to mid successional.



Mountain Ash

Sorbus scopulina

SOSC2

Habit: An erect, deciduous, several-stemmed shrub; 3 to 13 feet tall.

Description: **Leaves:** compound with 9-13 leaflets, pinnately arranged. The leaflets are pointed, finely serrate nearly their full length, 1 to 3 inches long, glabrous and dark green (above). **Stems:** new growth and sticky buds are covered with whitish hairs. **Flowers:** (May-early July) 70-200, white, in a flat-topped cluster. **Fruits:** orange to red "berries" (pomes) just under 1/2 inch diameter.

3 in



Shiny-leaf Spirea

Rose Family

Spirea betulifolia* var. *lucida

SPBEL

Family Rosaceae

Range: British Columbia south in the Cascades to Oregon and east to South Dakota and also in Asia.

Habitat: Indicates relatively warm and dry environments to warm, moist, well-drained sites.

Similar Species: May be confused with young serviceberry (*Amelanchier alnifolia*) leaves, but leaf color and serrations are different. Other species of spirea grow mainly in very moist to wet habitats.

Remarks: Widespread and increases after moderate disturbance. Indians used the whole plant after flowering to make tea for a general tonic. It is also called birch-leaf spirea. Unpalatable. Early to mid successional.



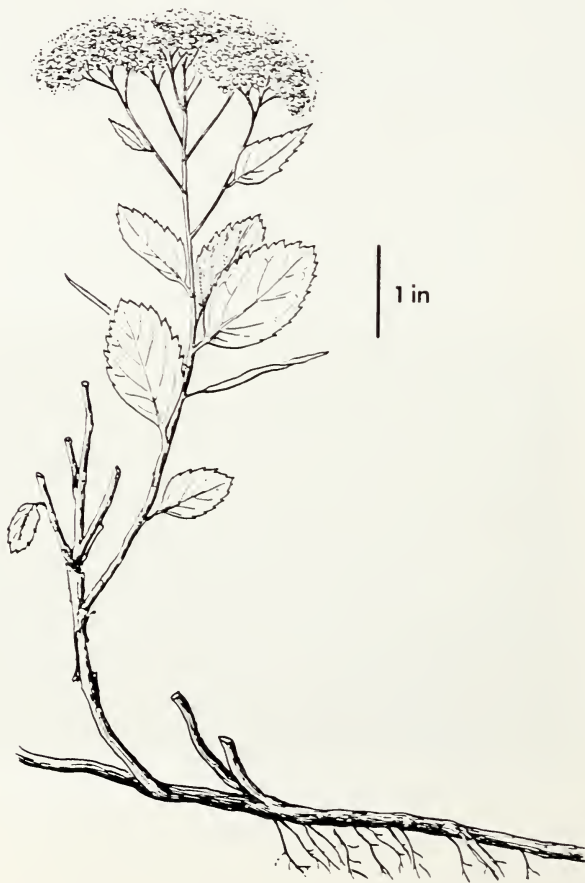
Shiny-leaf Spirea

Spirea betulifolia var. *lucida*

SPBEL

Habit: A deciduous, strongly rhizomatous shrub; 8 to 24 inches tall.

Description: **Leaves:** alternate, 1 to 3 inches long, toothed above the middle, dark green above and paler below. They generally resemble birch leaves (hence *betulifolia*). **Stems:** glabrous and erect; light yellowish-brown aging to reddish-brown. **Flowers:** (June-July) small, white; borne in a dense flat-topped cluster, 1 to 3 inches across. **Fruits:** small follicles with 2 to several, spindle-shaped, seeds.



Common Snowberry

Honey-suckle Family

Symphoricarpos albus

SYAL

Family Caprifoliaceae

Range: Widespread throughout much of North America.

Habitat: Dry to moist, low to mid elevation sites within the Douglas-fir and grand fir series. Uncommon on hot-dry sites, except where it can get its roots down into fractured bedrock or the like.

Similar Species: May be confused with mountain snowberry (*S. oreophilus*) which has solid stems and is non-rhizomatous; or creeping snowberry (*S. mollis* var. *hesperius*) which has trailing stems and fine hairs on the upper leaf. It may also be confused with Utah honeysuckle (*Lonicera utahensis*) which has large leaves and a solid white pith in the stems.

Remarks: The berries are considered poisonous by some authors, but others disagree. Indians used the plant in a variety of medicinal applications. The berries were mashed and rubbed in the armpits as an anti-perspirant according to one reference. Sometimes called snowball bush. Low palatability. Early to late successional.



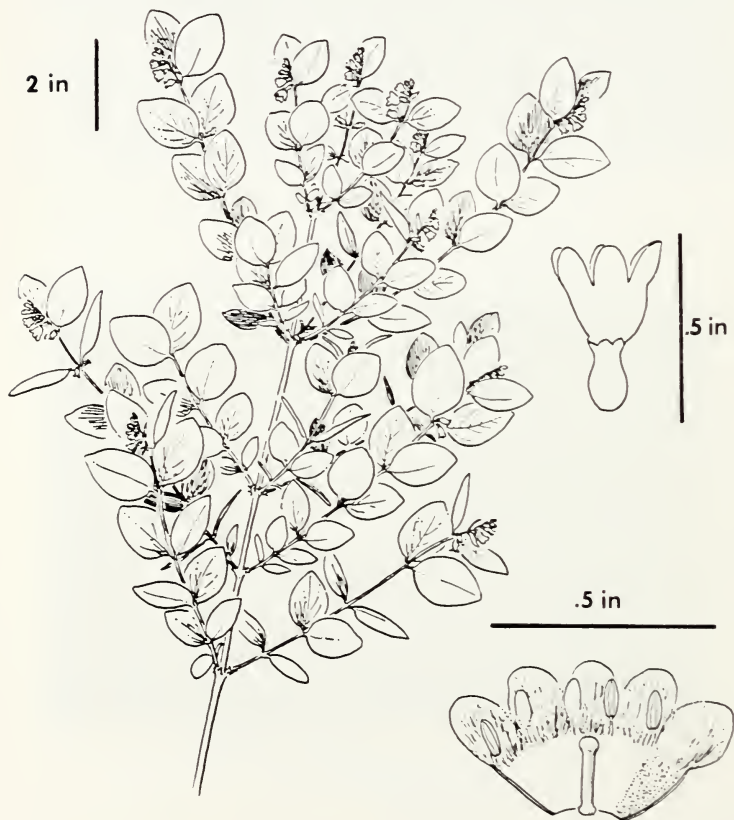
Common Snowberry

Symphoricarpos albus

SYAL

Habit: An erect to slightly spreading, deciduous, rhizomatous shrub; 2 to 7 feet tall.

Description: **Leaves:** opposite, elliptic, 1 to 2 inches long and entire (except on young shoots where the leaves are larger, variably shaped and often coarsely lobed). **Stems:** mature ones are hollow and have shredding grayish bark. The sucker shoots are commonly yellowish-brown with smooth bark. **Flowers:** (May-July) bell-shaped, white to pinkish up to $\frac{1}{2}$ inches long. The floral tube is densely hairy above the level of the anthers. **Fruits:** white and berry-like, commonly in clusters and persist into wintertime.



Creeping Snowberry

Honeysuckle Family

Symphoricarpos mollis* var. *hesperius

SYMOH

Family Caprifoliaceae

Range: Cascades to northern Idaho. Most common in our area south of Snoqualmie Pass.

Habitat: Moderate to moist sites; indicating more mesic conditions than the other snowberry species.

Similar Species: Easily confused with common snowberry (*S. albus*); mountain snowberry (*S. oreophilus*) as well as with Utah honeysuckle (*Lonicera utahensis*). See common snowberry description for differences.

Remarks: The berries are considered poisonous by some authors, but others disagree. Indians used the plant in a variety of medicinal applications. The berries were mashed and rubbed in the armpits as an anti-perspirant according to one reference. Low palatability. Early to late successional.



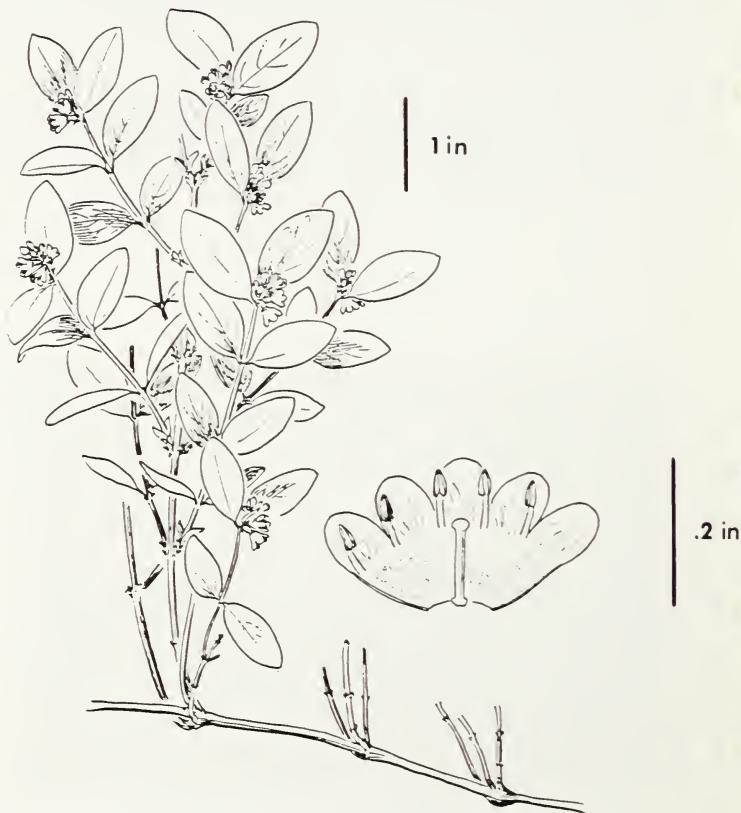
Creeping Snowberry

Symphoricarpos mollis var. *hesperius*

SYMOH

Habit: A low, trailing, deciduous shrub; 1 to 2 feet tall.

Description: *Leaves:* opposite, entire, elliptic and about 1 inch long. But leaves on new shoots tend to be larger and variably lobed. All leaves have fine hairs above. *Stems:* root at the nodes and have a solid, brownish pith. Twigs are very fine. *Flowers:* (June-July) bell-shaped, pinkish; in short, dense, terminal racemes. *Fruits:* round, waxy, white berries about $\frac{1}{4}$ inch across.



Mountain Snowberry

Honeysuckle Family

Symphoricarpos oreophilus

SYOR

Family Caprifoliaceae

Range: Widespread mountain species of open sites often at fairly high elevations. Mainly east of the Cascade Crest.

Habitat: Dry, warm environments; often on windswept upper slopes. Sometimes forming natural shrublands. Common in forest-margin stands on coarse textured soils.

Similar Species: Easily confused with common snowberry (*S. albus*); creeping snowberry (*S. mollis* var. *hesperius*) as well as with Utah honeysuckle (*Lonicera utahensis*). See common snowberry description for differences.

Remarks: Indicates sites with difficult to severe tree regeneration problems. The berries are considered poisonous by some authors but others disagree. Indians used the plant in a variety of medicinal applications. The berries were mashed and rubbed in the armpits as an anti-perspirant according to one reference. Low palatability. Early to late successional.



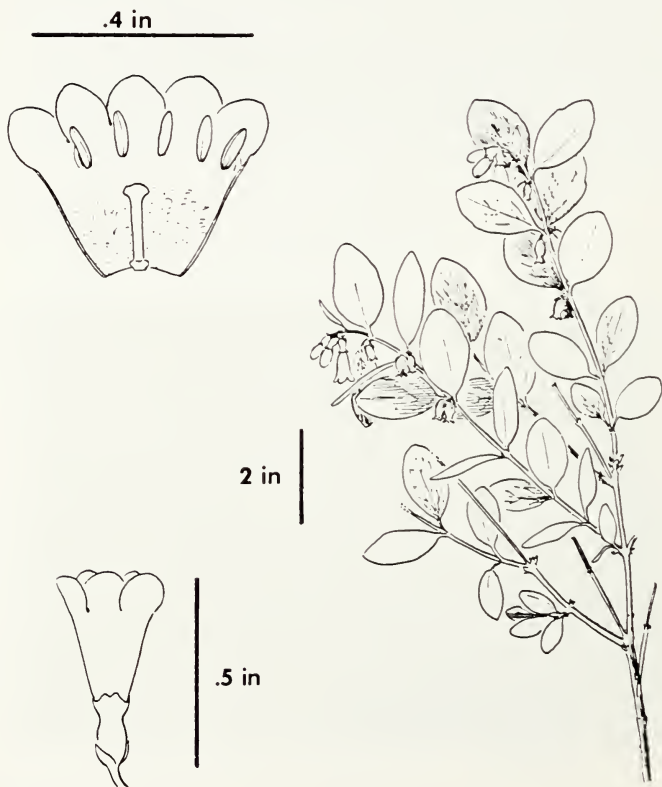
Mountain Snowberry

Symphoricarpos oreophilus

SYOR

Habit: An erect, non-rhizomatous, deciduous shrub; 2 to 5 feet tall.

Description: **Leaves:** opposite, elliptic or elliptic-ovate, $\frac{1}{2}$ to $1\frac{1}{2}$ inches long and dark green (making the leaf veins more visible than in other species). The bushes are conspicuously solitary. **Stems:** mature stems are solid, not hollow. **Flowers:** (June-August) bell-shaped and commonly pinkish-red. The floral tube is hairy or glabrous below the level of the anthers. **Fruits:** white berries that tend to persist on the stems.



Alaska Huckleberry

Heath Family

Vaccinium alaskaense

VAAL

Family Ericaceae

Range: Mainly west of the Cascades and found only in the wetter parts of the Wenatchee National Forest in our area. Most common on Cle Elum and Lake Wenatchee Districts.

Habitat: Cool, moist sites at middle to upper elevations, often in association with silver fir, mountain hemlock and big huckleberry (*V. membranaceum*).

Similar Species: May be confused with big huckleberry, which has more pointed and distinctly serrated leaves; and with oval-leaf huckleberry (*V. ovalifolium*) which has shorter, non-glandular leaves and more curved pedicels on the fruits and flowers.

Remarks: Berries are tasty but tart and noticeably more acid than those of big huckleberry. Unpalatable. Mid to late successional.



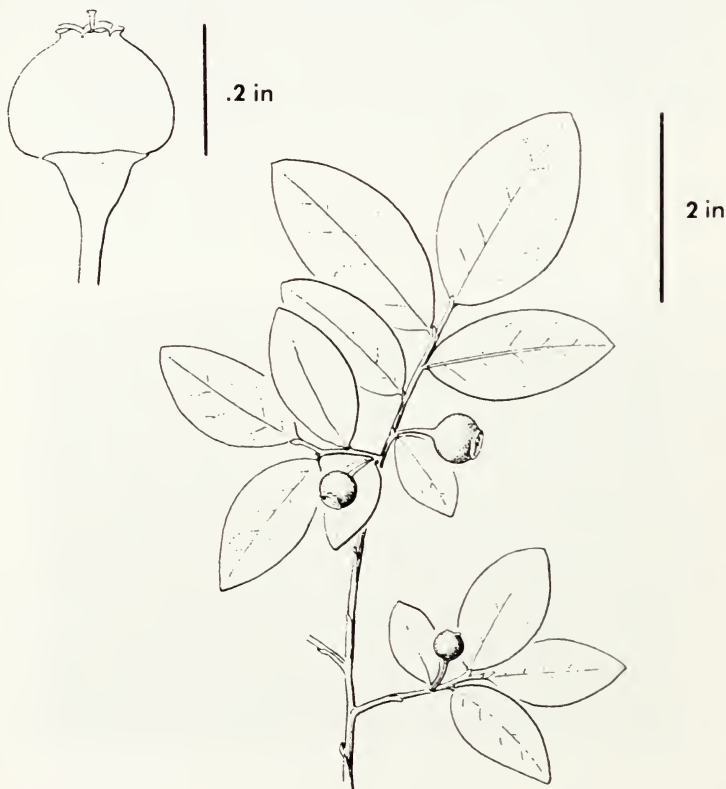
Alaska Huckleberry

Vaccinium alaskaense

VAAL

Habit: An alternate-leaved, deciduous shrub up to 4 feet tall.

Description: *Leaves:* sparsely glandular, ovate-elliptic, entire to slightly serrulate and 1 to 2½ inches long. There are small hairs on the underside midvein. *Stems:* young twigs are yellow-green and somewhat angled. *Flowers:* (May-June) appearing when the leaves expand; the flowers are single on straight pedicels and are bronzy-pink. *Fruit:* a glaucous, bluish-black to non-glaucous, purplish-black berry about ¼ inch in diameter.



Dwarf Huckleberry

Heath Family

Vaccinium caespitosum

VACA

Family Ericaceae

Range: Widespread in northern North America. Especially common on the Okanogan and Colville National Forests.

Habitat: Restricted to cool, frosty environments. At mid elevations in forested stands and in subalpine or alpine meadows. Often indicates frost pockets.

Similar Species: May be confused with the other huckleberries, most especially Cascade huckleberry (*V. deliciosum*) but the latter has generally larger, more bluish and glaucous, spatulate leaves.

Remarks: The berries are edible and sweet. Unpalatable. Early to late successional.



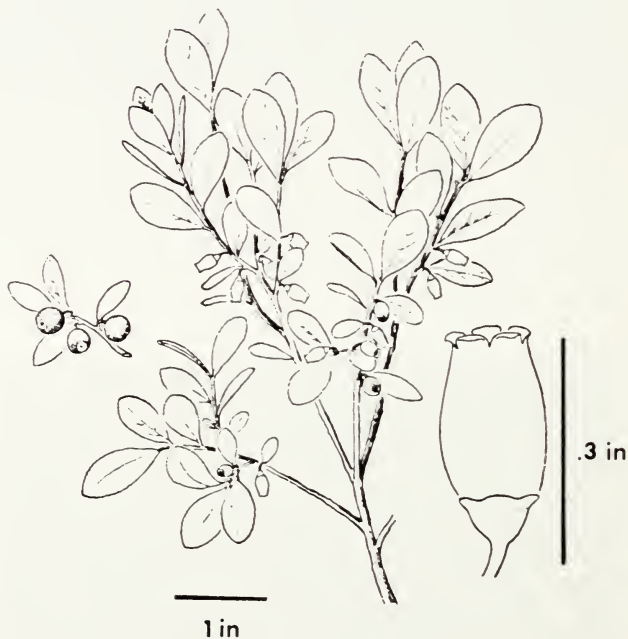
Dwarf Huckleberry

Vaccinium caespitosum

VACA

Habit: A widely spreading, deciduous, dwarf shrub; 6 to 12 inches tall.

Description: *Leaves:* oblanceolate, alternate, light green, serrate and about 1 inch long. *Stems:* round, hairy, somewhat angled, and yellowish-green to reddish-brown. *Flowers:* (May-July) whitish to pink and narrowly urn-shaped. *Fruits:* glaucous-blue berries.



Cascade Huckleberry

Heath Family

Vaccinium deliciosum

VADE

Family Ericaceae

Range: Cascade and Olympic mountains. Not found in the Rocky Mountains.

Habitat: Cold to very cold sites with difficult to severe regeneration problems. Upper to high elevations, commonly in subalpine openings.

Similar Species: Easily confused with dwarf huckleberry (*V. caespitosum*) but the latter tends to have narrower, non-glaucous leaves.

Remarks: The berry is very tasty. Unpalatable. Early to late successional.



Cascade Huckleberry

Vaccinium deliciosum

VADE

Habit: Low, matted, deciduous shrub; 6 to 16 inches in height.

Description: **Leaves:** alternate, oblanceolate, $\frac{1}{2}$ to 2 inches long and bluish to pale green. They are glaucous beneath and serrulate on the upper $\frac{1}{2}$ to $\frac{2}{3}$ of their length. **Stems:** twigs are inconspicuously angled and brownish in color. **Flowers:** (May-June) pinkish, single in the axils and about $\frac{1}{4}$ inch long. **Fruits:** glaucous-blue berries.



Big Huckleberry

Heath Family

Vaccinium membranaceum

VAME

Family Ericaceae

Range: Widespread in the Pacific Northwest.

Habitat: Moist, cool to cold environments at mid to upper elevations.

Similar Species: May be confused with other huckleberry species but the large, thin, pointed leaves of big huckleberry are usually distinctive. There is a complete intergrade with globe huckleberry (*V. globulare*) in eastern Washington, northern Idaho to western Montana. Ecologists in Idaho and Montana normally refer to their plants as globe huckleberry. The majority of our material better fits big huckleberry. Globe huckleberry tends to be mainly in the Rocky Mountains and big huckleberry tends to be in the Cascades.

Remarks: The berries are excellent raw or cooked and were (are) an important food source for the Indians. Palatable to deer and elk. Early to late successional.



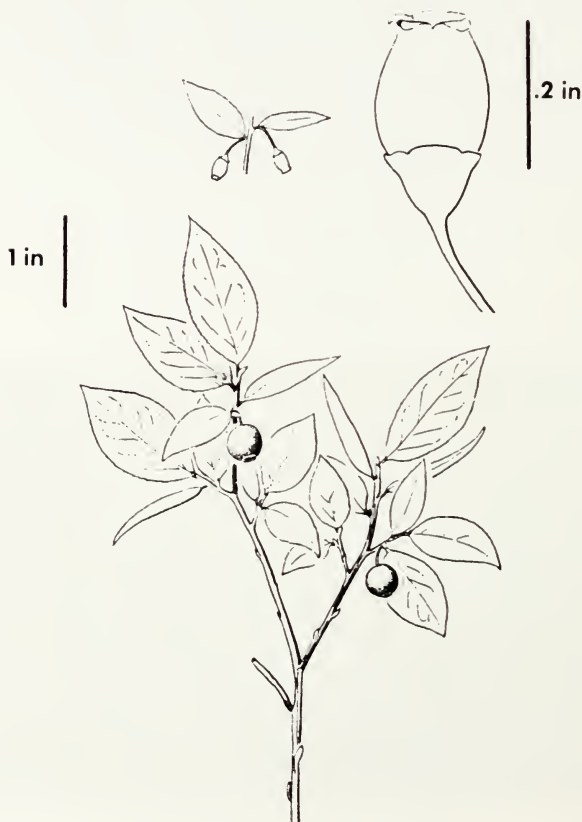
Big Huckleberry

Vaccinium membranaceum

VAME

Habit: An erect, branched, deciduous shrub; 1 to 4 feet tall.

Description: **Leaves:** thin, ovate, pointed, serrate; 1 to 2 inches long. **Stems:** older ones have grayish and shreddy bark while the young twigs are yellowish-green and somewhat angled. **Flowers:** (April-June) yellow-pink, about $\frac{1}{8}$ inch long and urn-shaped. **Fruits:** purple or dark purplish-reddish berries about $\frac{1}{4}$ inch diameter.



Low Huckleberry

Heath Family

Vaccinium myrtillus

VAMY

Family Ericaceae

Range: British Columbia south to Wenatchee Mountains, and east to the Rocky Mountains and in Eurasia.

Habitat: Cool, frosty sites at upper elevations in habitats similar to that of grouse huckleberry (*V. scoparium*). Except low huckleberry does not extend as high in elevation or to as cold of sites.

Similar Species: Easily confused with grouse huckleberry but the leaves are larger, lighter in color, and the stems larger and less crowded together.

Remarks: The berries are edible and sweet. Unpalatable. Early to late successional.



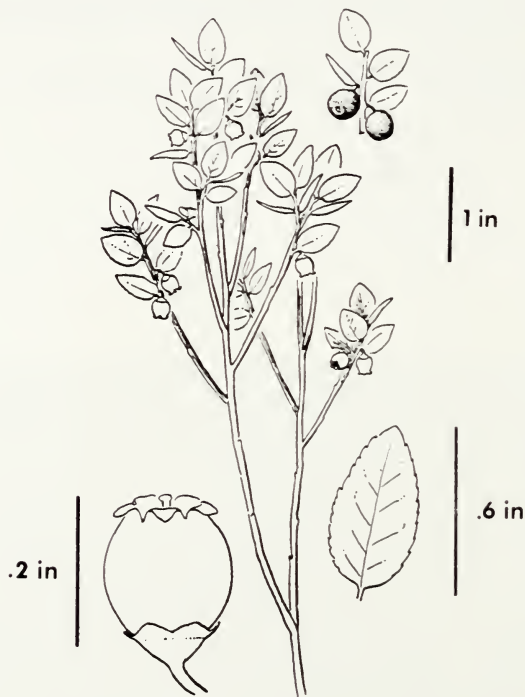
Low Huckleberry

Vaccinium myrtillus

VAMY

Habit: A low, deciduous shrub; 8 to 12 inches tall.

Description: **Leaves:** $\frac{1}{2}$ to 1 inch long, light green, ovate, glabrous, and sharply toothed. **Stems:** sharply angled, usually puberulent and greenish but not broom-like. **Flowers:** (May-August) pinkish and urn-shaped. **Fruits:** dark red to bluish-black berries.



Red Huckleberry

Heath Family

Vaccinium parvifolium

Family Ericaceae

VAPA

Range: Mainly west of the Cascade crest; British Columbia south to California. Found in our area where there is a strong maritime climatic influence.

Habitat: Relatively warm, moist, maritime conditions on Cle Elum and Lake Wenatchee Districts. Not at high elevations or on cold, frosty sites.

Similar Species: May be confused with other huckleberries but the combination of a tall, erect huckleberry with green stems is distinctive.

Remarks: Berries are tasty but tart. Sometimes the foliage and buds may be red. Low palatability to livestock, palatable to deer and elk. Early to mid successional.



Red Huckleberry

Vaccinium parvifolium

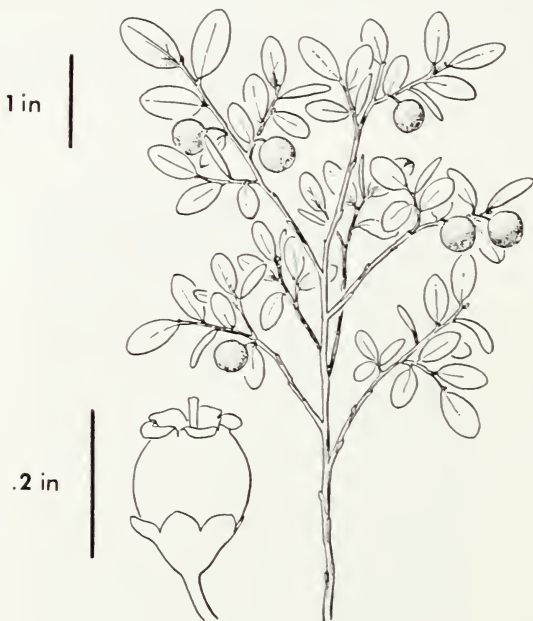
VAPA

Habit: An erect, deciduous shrub; 3 to 10 feet tall.

Description: **Leaves:** alternate, about $\frac{1}{2}$ to 1 inch long and usually entire, but may be serrated on low, creeping branches. They are dark green above; paler beneath with a petiole about $\frac{1}{8}$ inch long.

Stems: twigs are green, prominently angled and ribbed. **Flowers:** (April-June) small, urn-shaped and greenish-white to reddish.

Fruits: translucent, red berries about $\frac{1}{4}$ inch in diameter.



Grouse Huckleberry

Heath Family

Vaccinium scoparium

VASC

Family Ericaceae

Range: Mainly east of the Cascades through most of the Rocky Mountains.

Habitat: Cold, mid to high elevation sites that may have frost any night of the year. When greater than 10% cover; it indicates high potential for frost and few ground nesting birds.

Similar Species: Easily confused with low huckleberry (*V. myrtillus*) but grouse huckleberry leaves are nearly always less than 1/2 inch long and tend to be darker in color. The stems are more crowded "broom-like" than those of low huckleberry.

Remarks: An indicator in many associations. The berries are excellent but very small. Commonly the only shrub present in nearly pure, upper elevation, lodgepole pine stands; especially on the Okanogan National Forest. Unpalatable. Early to late successional.



Grouse Huckleberry

Vaccinium scoparium

VASC

Habit: A low, broom-like, deciduous shrub; 2 to 10 inches tall.

Description: **Leaves:** small (less than ½ inch), finely serrate and dark to light-green. **Stems:** many, slender, strongly angled with greenish or yellowish-green branches. **Flowers:** (May-August) small, pinkish and urn-shaped. **Fruits:** small, bright red berries.



Beargrass Lily Family

Xerophyllum tenax

Family Liliaceae

XETE

Range: Common in parts of the Cascades and in the northern Rocky Mountains. Very uncommon in our area from Snoqualmie Pass north and east to the Pend Oreille River.

Habitat: Cold and dry (to moist) sites at upper elevations. Snow-packs are often high but the sites are summer dry because they tend to be on southerly and westerly aspects.

Similar Species: Not easily confused with any other species.

Remarks: Favored by disturbances, especially fires. The leaves were widely used by the Indians for weaving baskets. Not a grass despite the common name. Many do not recognize it as a shrub but treat it as an herb. Unpalatable. Early to late successional.



Beargrass

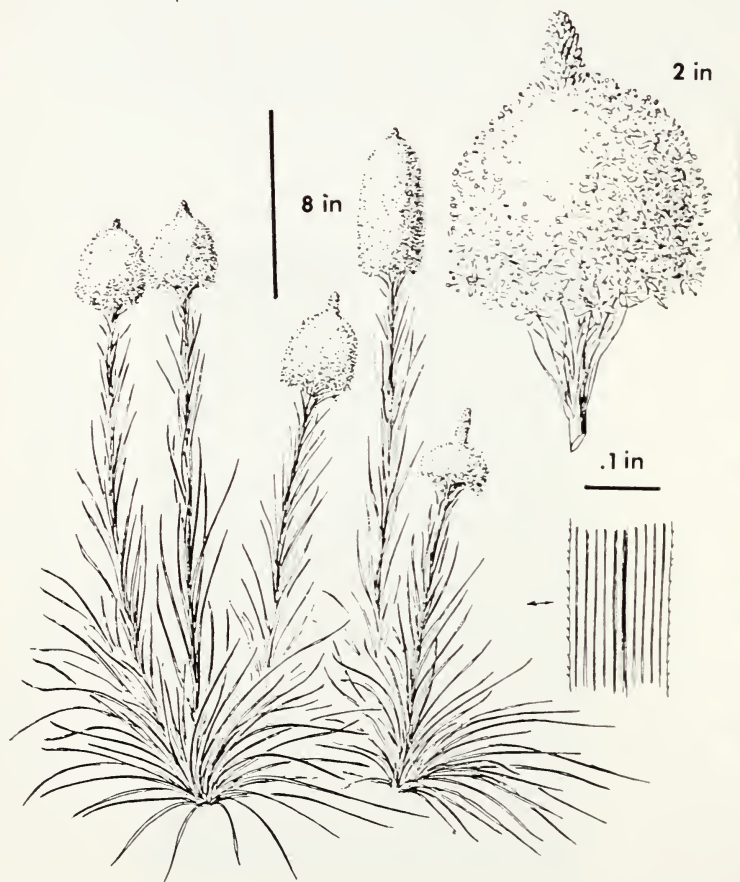
Xerophyllum tenax

XETE

Habit: An evergreen, superficially grass-like, perennial subshrub with flower stalks up to 5 feet tall.

Description: *Leaves:* long, strap-like, coarse and tough, the basal ones in dense grass-like clumps. The margins have small sharp teeth and the under surfaces have white grooves their full length.

Stems: flower stalks are stout, persistent and very leafy with the leaves reduced upward. *Flowers:* (March-July) fragrant, cream to white in a conspicuous, club-like terminal raceme. *Fruits:* small, 3-celled capsules with several seeds.







Yarrow

Aster Family

Achillea millefolium

ACMI

Family Compositae

Range: Circumboreal, widespread and common.

Habitat: All types of sites from seacoast to subalpine forest except those with saturated soils or significant shade; thrives on disturbance.

Similar Species: Not easily confused with other species. The odor of the crushed foliage is distinctive.

Remarks: The dried leaves, seeds and flowers can be used to make a tea. The Indians placed the stems and leaves on hot coals to keep away mosquitos and the tea was used medicinally. Unpalatable. Early successional.



Yarrow

Achillea millefolium

ACMI

Habit: An aromatic, rhizomatous, perennial forb, 4 to 40 inches tall.

Description: **Leaves:** alternate, slender and pinnately dissected (fern-like). The basal ones are petiolate but the cauline ones are sessile. The stems and leaves are usually densely white woolly (lanulose) and always strongly aromatic. **Flowers:** (April-October) white in flat-topped clusters. **Fruits:** small achenes.



Vanilla Leaf

Barberry Family

Achlys triphylla

ACTR

Family Berberidaceae

Range: Cascade Mountains from British Columbia to northern California but east of the Cascades to northwest Oregon. Common on parts of the Wenatchee National Forest in our area; absent or uncommon elsewhere.

Habitat: Moist sites, often in areas where topographic moisture is available; most common in the western hemlock and silver fir series.

Similar Species: Not easily confused with any other species.

Remarks: The dried leaves have a pleasant scent. Excellent addition to the woodland garden. Indians used it for a variety of medicinal purposes and as a form of insect repellent. Palatable, elk seem to relish it. One of three genera within this family in the Northwest; the other two are *Berberis* and *Vancouveria*. Mid to late successional.



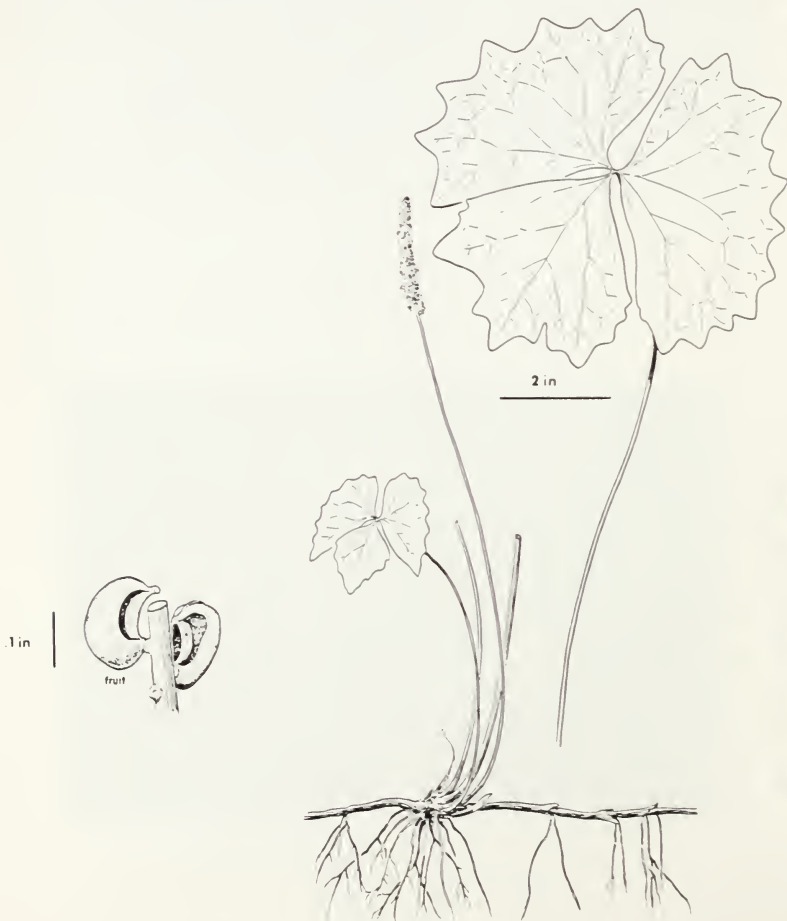
Vanilla Leaf

Achlys triphylla

ACTR

Habit: A rhizomatous, spreading herb with horizonatally arranged leaves; to 12 inches tall.

Description: *Leaves:* glabrous, horizontally oriented, 3-foliate and up to 8 inches across. The petioles are 4 to 12 inches long. *Flowers:* (April-July) on slender scapes, 8 to 16 inches tall, and lack both calyx and corolla. *Fruits:* small, dry, reddish-purple, berries; clustered on the scape.



Baneberry

Buttercup Family

Actaea rubra

ACRU

Family Ranunculaceae

Range: Alaska to California, east to Arizona, New Mexico and to the Atlantic states. Throughout our area.

Habitat: Occurs on cool and moist to wet sites at mid elevations.

Similar Species: Not easily confused with any other species.

Remarks: An excellent plant for flower gardens, but the fruits are poisonous (hence baneberry). Unpalatable. Mid to late successional.



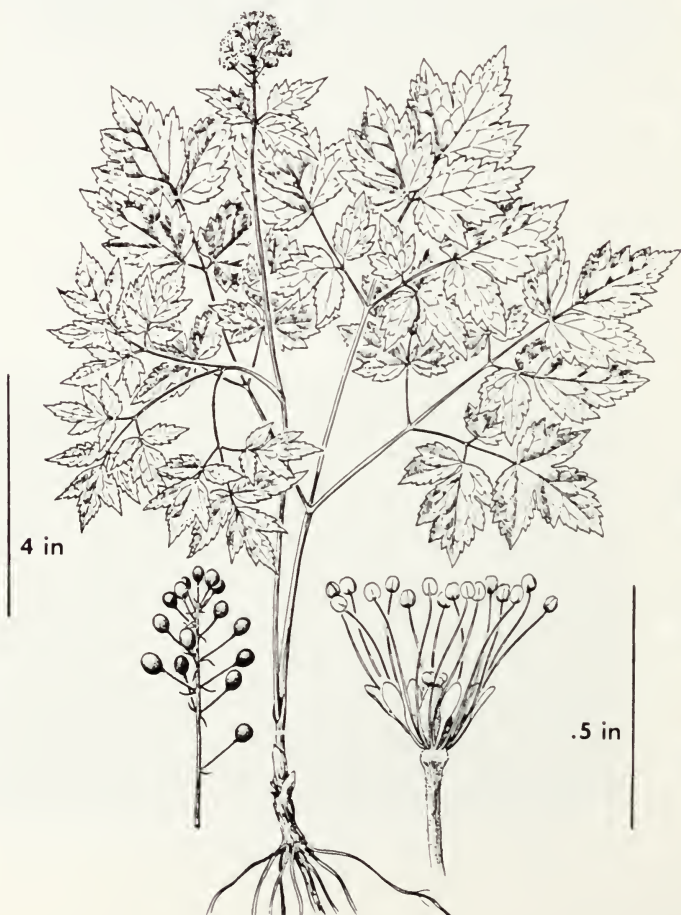
Baneberry

Actaea rubra

ACRU

Habit: An erect, usually branched, perennial herb; 1 to 3 feet tall.

Description: **Leaves:** few, but their compound structure gives the plant a leafy appearance. They are alternate, cauline, 2-3 times divided, 1 to 4 inches long, sharply toothed and lobed. **Flowers:** (May-July) white, with a "frilly" appearance (because the stamens exceed the petals) in terminal or axillary clusters. **Fruits:** red to sometimes white berries occurring in clusters.



Pathfinder

Aster Family

Adenocaulon bicolor

ADBI

Family Compositae

Range: West of the Cascades eastward into northwestern Montana.

Habitat: A mid elevation species; most common and abundant in moist and moderate environments within and above the grand fir series.

Similar Species: The leaf shape and color make it very distinctive.

Remarks: "Pathfinder" comes from the characteristic of this plant to show its highly visible underside when disturbed; often with the leaf tip pointing the way of the path of disturbance. Also known as trail plant. Unpalatable. Mid to late successional.



Pathfinder

Adenocaulon bicolor

ADBI

Habit: A slender, erect, perennial herb with a flowering stem to 3 feet tall.

Description: *Leaves:* alternate, "arrowhead shaped", long petiolate and mostly basal, 1 to 6 inches wide; dark green and glabrous above while nearly white beneath from dense white hair. *Flowers:* (June-September) small, white and inconspicuous. *Fruits:* sticky achenes with small, stalked glands; often clinging to clothing.



Wild Sarsparilla

Ginseng Family

Aralia nudicaulis
Family Araliaceae

ARNU3

Range: Eastern British Columbia and northeast Washington to the Atlantic coast and eastern Canada.

Habitat: Moist shaded sites at low to mid elevations. Sometimes on sites that appear too dry for it.

Similar Species: Not easily confused with other species. The woody stems are inconspicuous but the leaves are large and erect.

Remarks: Indians boiled the rhizomes to make a beverage and it has properties similar to the tropical sarsparilla. In the same family as devil's club (*Oplopanax horridum*); the only two native Pacific Northwest members. Unpalatable. Mid to late successional.



Wild Sarsparilla

Aralia nudicaulis

ARNU3

Habit: A widely rhizomatous, perennial herb (shrub?) with an inconspicuous, short, erect, woody stem that barely reaches the soil surface.

Description: *Leaves:* generally single, 12 to 20 inches long, and 3 times compound. The leaflets are serrate, pinnately compound and arrayed horizontally. *Flowers:* greenish-white, inconspicuous but numerous in an inflorescence consisting of 3-7 spherical clusters shorter than the leaves. *Fruits:* dark purple berries.



Heartleaf Arnica

Aster Family

Arnica cordifolia

Family Compositae

ARCO

Range: Widespread mountain species throughout our area.

Habitat: Moist and moderate mid elevation sites. Found in all but the driest, wettest and coldest, forest communities.

Similar Species: Easily confused with broadleaf arnica (*A. latifolia*) which has glabrous to partly glandular achenes, smooth thin leaves, indistinct leaf venation and several flower heads (usually).

Remarks: Indians used arnica flowers for various medicinal purposes, one of which involved steeping the flower heads in water and applying the liquid to cuts and wounds. Low in palatability. Mid to late successional.



Heartleaf Arnica

Arnica cordifolia

ARCO

Habit: A perennial herb from long, nearly naked rhizomes; 4 to 24 inches tall.

Description: *Leaves:* opposite, heart-shaped (hence cordifolia), fuzzy, usually toothed and 2 to 5 inches long. The upper leaves and petioles are much reduced. The leaf veins are prominent. *Flowers:* (April-June) yellow in usually solitary heads, with densely hairy floral bracts. *Fruits:* uniformly short-hairy or glandular achenes.



Broadleaf Arnica

Aster Family

Arnica latifolia

ARLA

Family Compositae

Range: Alaska to California and Colorado. A common and variable species with several varieties.

Habitat: Most often in the subalpine fir, silver fir and mountain hemlock series. Broadleaf arnica typifies cooler, more moist sites than heartleaf arnica (*A. cordifolia*).

Similar Species: May be confused with heartleaf arnica which normally has single flower heads and small cauline leaves without petioles.

Remarks: Indians used arnica flowers for various medicinal purposes, one of which involved steeping the flower heads in water and applying the liquid to cuts and wounds. Low palatability. Mid to late successional.



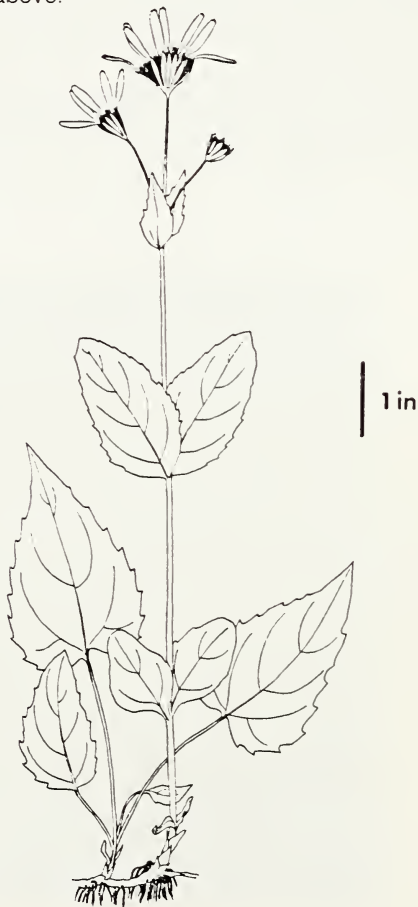
Broadleaf Arnica

Arnica latifolia

ARLA

Habit: A perennial herb; 4 to 24 inches tall from a fibrous rhizome.

Description: *Leaves:* opposite, normally glabrous to sometimes hairy, toothed, broadly lance-shaped (rarely cordate) and 1 to 6 inches long with inconspicuous venation. The middle stem leaves have no petioles but are as large as the basal leaves. *Flowers:* (June-July) yellow, usually several heads per stem, with slightly hairy to glabrous bracts. *Fruits:* achenes that are normally glabrous to slightly hairy above.



Bigleaf Sandwort

Pink Family

Arenaria macrophylla

Family Caryophyllaceae

ARMA3

Range: Widespread in North America.

Habitat: Most common on sites at the dry end of the grand fir series but may extend up to parts of the silver fir series.

Similar Species: May be confused with Menzies's silene (*Silene menziesii*) which has a calyx with the sepals joined into a tube and sticky starwort (*Stellaria jamesiana*) which has two-lobed petals, a glandular inflorescence and 4-angled stems.

Remarks: Very common on the Wenatchee National Forest. Unpalatable. Early to mid successional.



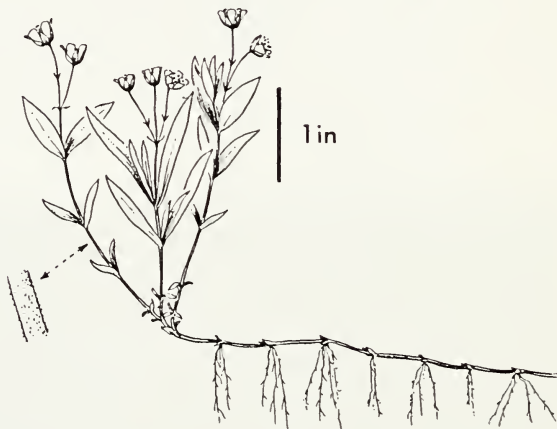
Bigleaf Sandwort

Arenaria macrophylla

ARMA3

Habit: A prostrate, perennial herb with slender rhizomes. Often forms loose mats.

Description: *Leaves:* simple, opposite, lanceolate, 1 to 2 inches long with swollen nodes. *Stems:* round to 4-angled, roughened, decumbent to erect and branched. *Flowers:* (May-August) white, 2-5, borne on long slender peduncles in terminal or lateral cymes. The sepals are pointed with roughened-ciliate margins. *Fruits:* round to egg-shaped 1-celled capsules.



Wild Ginger

Birthwort Family

Asarum caudatum

ASCA3

Family Aristolochiaceae

Range: West and east of the Cascades from British Columbia to Oregon and east to western Montana.

Habitat: A mid elevation species of moist to wet environments. Commonly associated with western red cedar.

Similar Species: Not easily confused with any other species.

Remarks: The crushed foliage has a "ginger" scent. The root stalk is edible fresh or can be dried and then ground as a ginger substitute. The only member of this family in the Pacific Northwest. Unpalatable. Mid to late successional.



Wild Ginger

Asarum caudatum

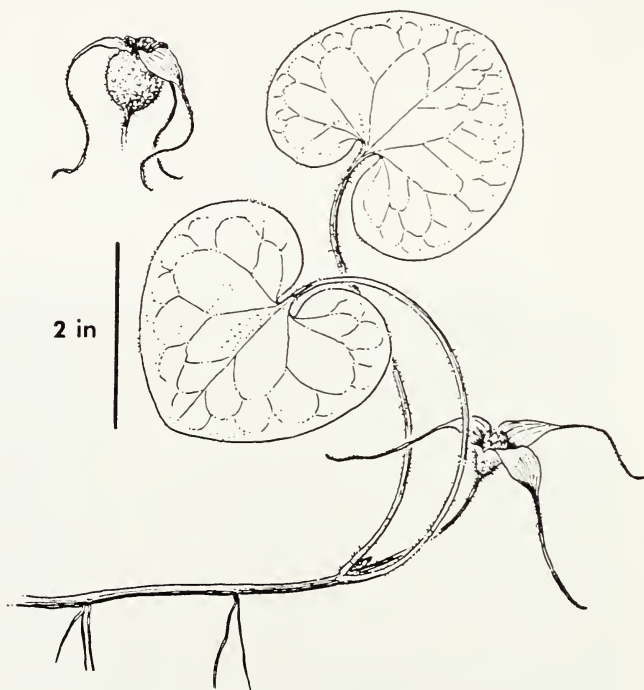
ASCA3

Habit: A low, mat-forming, evergreen, perennial herb from extensive rootstocks.

Description: *Leaves:* "heart-shaped" (actually cordate-reniform), long petiolate, in twos from each node, 2 to 4 inches in diameter.

Flowers: (April-July) single at or near the ground; unusual and brownish-purple with three long sepals from a bell-shaped base.

Fruits: 6-celled capsules.



Podfern Fern Family

Aspidotis densa

Polypodiaceae

ASDE

Range: Irregular from southern British Columbia to California and east to Quebec.

Habitat: On ultrabasic rocks including serpentine, peridotite and dunite. Podfern is a consistent indicator of these unusual geologic types. Rarely found on other rock types. It indicates unstable soils, with severe regeneration problems. Most species found with it are special ecotypes adapted to the high magnesium to calcium ratios in the soils even though they may be common species on other geologic parent materials. Ecotypes not adapted to ultrabasic rocks are very poorly suited to these sites. Frequently all vegetation is sparse and stunted, especially on south slopes. Even when forested the sites should be considered non-commercial because of the lack of consistent regeneration and the narrow ecologic adaptation of the resident ecotypes.

Similar Species: Not easily confused with other ferns because of the clustered, narrow, inrolled, fertile leaves and the smooth, dark stems.

Remarks: Podfern has been called by a variety of scientific names. Much of the more recent literature refers to it as *Cheilanthes siliquosa* or *Cryptogramma densa*. Unpalatable. Early to late successional.



Podfern

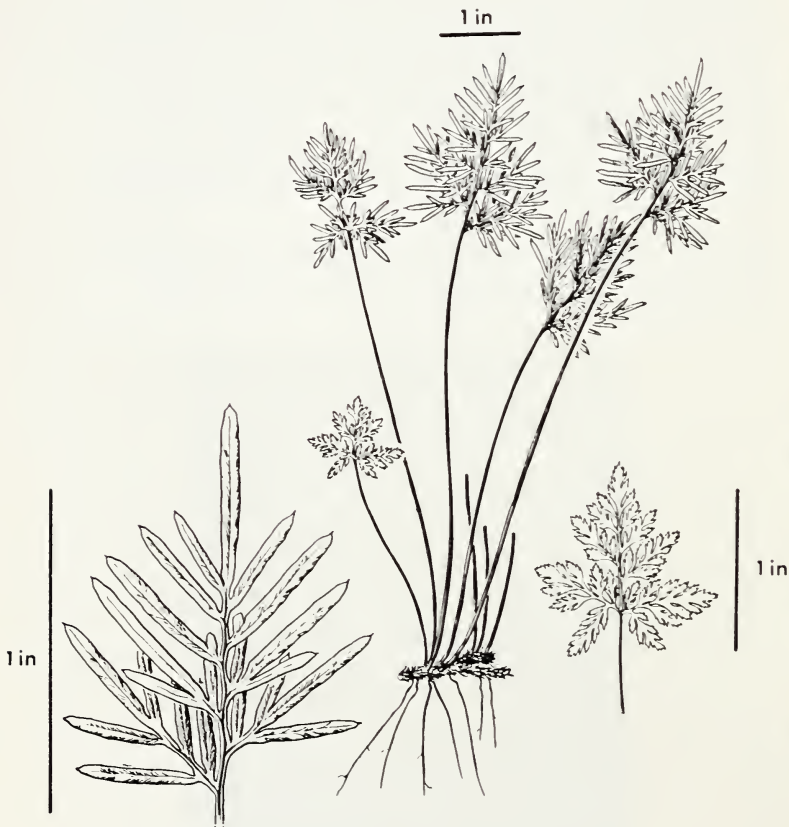
Aspidotis densa

ASDE

Habit: A small (2 to 12 inches), clustered fern with narrow evergreen leaves usually growing among rocks.

Description: *Leaves:* numerous, clustered, narrow, glabrous and all similar. The fertile and unfertile ones resemble each other but the latter tend to be smaller with somewhat broader pinnae. The pinnae margins are inrolled, white, and chaffy in texture; covering the sori.

Stems: smooth, wiry, dark reddish-brown to nearly black in color with a single vascular bundle. *Sori:* covered by the inrolled leaf margins or with separate portions of the leaf margins.



Lady-fern

Fern Family

Athyrium filix-femina

Family Polypodiaceae

ATFI

Range: Circumboreal in suitable habitats.

Habitat: Wet to sometimes moist sites; commonly in or near running water. A distinctive indicator of wet or riparian conditions.

Similar Species: May be confused with other ferns, especially on drier than normal sites where it is reduced in stature. However, the fronds tapering at both ends and the large size within wet habitats make it easily recognized.

Remarks: Indians used the fiddle heads as food and the fronds were used to cover fire pits. Unpalatable. Mid to late successional.



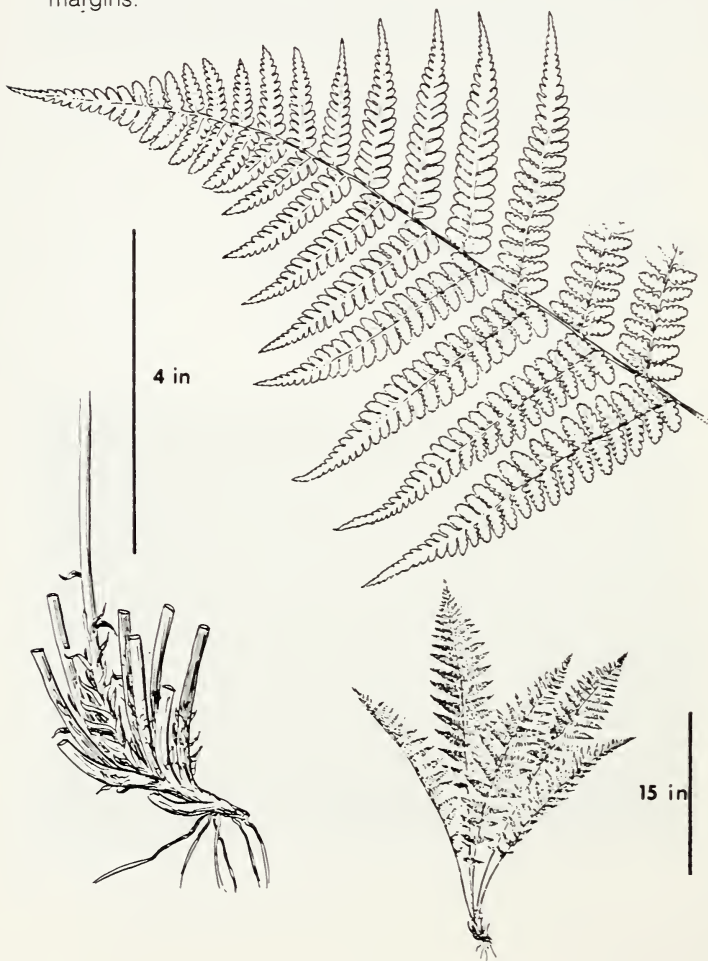
Lady-fern

Athyrium filix-femina

ATFI

Habit: A large, up to about 4 feet tall, tufted perennial fern from a scaly rhizome.

Description: *Leaves:* (fronds) Clustered in a vase-like tuft and 1 to 7 feet long. The leaf petioles are shorter than the blades and have many blackish scales at the base. The fronds are tapered at both ends. *Sori:* kidney shaped, borne beneath the fronds near the margins.



Arrowleaf Balsamroot

Aster Family

Balsamorhiza sagittata

BASA

Family Compositae

Range: Widespread east of the Cascades to the Rocky Mountains.

Habitat: Characterizes relatively warm and dry sites on southerly aspects typically on rocky and coarse-textured soils. Found most commonly at or near the lower forest margin and indicates severe tree regeneration problems because of drought and excessive heat.

Similar Species: Easily confused with other less common balsamroots in our area; especially Carey's balsamroot (*B. careyana*). Indicator values in forested environments are similar so the difficult taxonomic separation isn't necessary.

Remarks: The Indians used young shoots, roots and seeds for food. The seeds were ground for flour. Low in palatability; usually only the seed heads eaten. Early to mid successional.



Arrowleaf Balsamroot

Balsamorhiza sagittata

BASA

Habit: A robust, perennial herb, 8 to 30 inches tall; with a deep-seated, woody taproot.

Description: *Leaves:* arrow-head shaped, very large, up to 12 inches long with a long petiole. They arise from a basal clump, are milky-green in color and are covered with whitish, felt-like hair.

Flowers: (April-July) yellow, in showy, sunflower-like heads 2 to 3 inches in diameter. *Fruits:* sunflower-seed like achenes.



Queencup Beadlily

Lily Family

Clintonia uniflora

CLUN

Family Liliaceae

Range: Alaska to California, from the coast inland to southwestern Alberta, Montana, Idaho and eastern Oregon.

Habitat: Indicative of moist, moderate forest environments with excellent potential for natural regeneration.

Similar Species: May be confused with bog-orchid (*Habenaria* spp.) or yellow fawn-lily (*Erythronium grandiflorum*); neither of which is hairy or has large single white flowers. The hairy leaf bases of queencup beadlily are distinctive.

Remarks: The berry is edible but not very palatable. Unpalatable. Late successional.



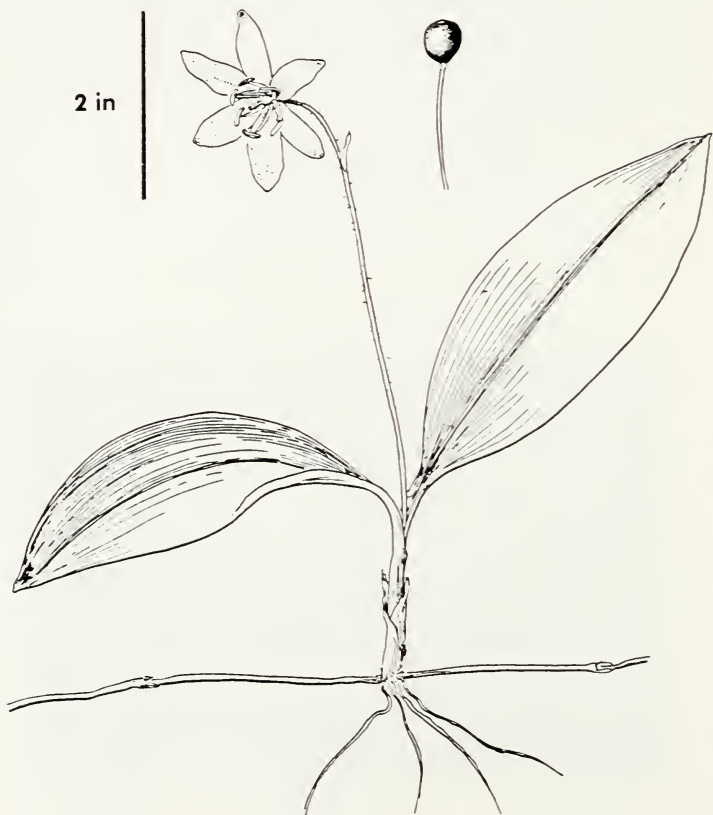
Queencup Beadlily

Clintonia uniflora

CLUN

Habit: A widely rhizomatous, perennial herb.

Description: **Leaves:** 2-3, all basal, 3 to 6 inches long and slightly fleshy with long silvery hairs beneath and on the margins. **Flowers:** (June-July) solitary, white, up to 1½ inches across. **Fruits:** solitary, lustrous blue berries.



Hooker Fairybells

Lily Family

Disporum hookeri

Family Liliaceae

DIHO

Range: Both sides of the Cascades from British Columbia to northern Oregon and east to Montana and Alberta, Canada.

Habitat: Moist and moderate environments above the Douglas-fir series. Mainly with grand fir, western hemlock and sometimes silver fir.

Similar Species: Most easily confused with wartberry fairybells (*D. trachycarpum*) which has fruits that are roughened berries and a different leaf shape. May also be confused with claspleaf twisted-stalk (*Streptopus amplexifolius*) which has green stems and flowers on kinked stalks beneath each leaf; or solomonplume (*Smilacina* spp.) which have unbranched green stems and terminal flower clusters.

Remarks: Some references suggest the berries may be eaten while others indicate they may be toxic. Low in palatability. Mid to late successional.



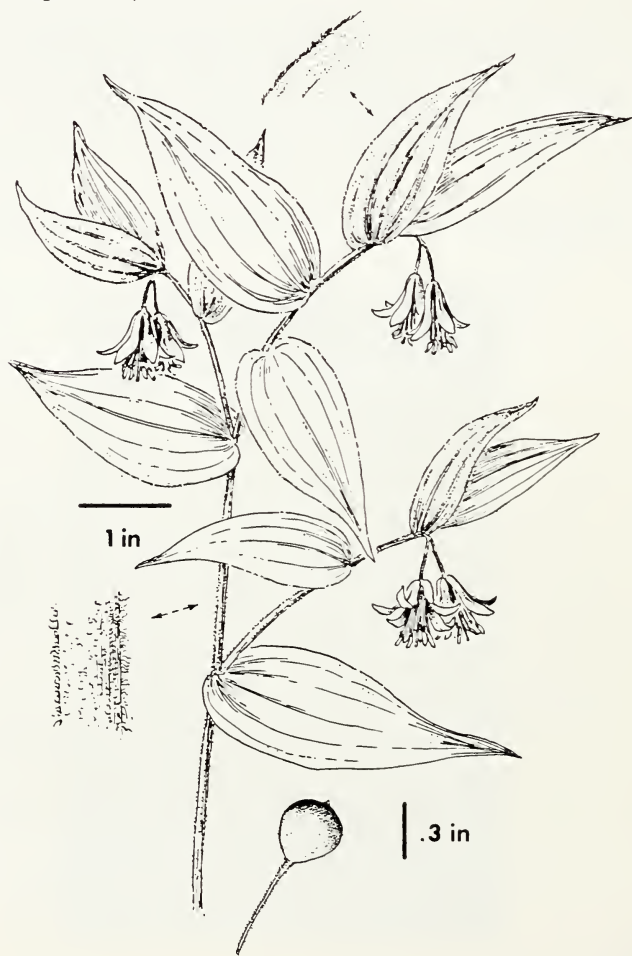
Hooker Fairybells

Disporum hookeri

DIHO

Habit: A rhizomatous, branched, perennial herb up to 3 feet tall.

Description: **Leaves:** pointed, 2 to 6 inches long, prominently veined and the margins have forward-pointing cilia. **Stems:** brown, hairy and sparingly branched. **Flowers:** (April-July) creamy white, bell-shaped at the ends of the branches hanging in pairs and below (often concealed by) the leaves. **Fruits:** smooth, whitish berries maturing to red; pointed on the ends.



Wartberry Fairybells

Lily Family

Disporum trachycarpum

DITR

Family Liliaceae

Range: British Columbia to northwest Oregon, east to Alberta Canada and western Montana.

Habitat: Relatively dry sites within the Douglas-fir series; occurs on drier sites than Hooker fairybells.

Similar Species: See Hooker fairybells (*D. hookeri*) discussion.

Remarks: Some references suggest the berries may be eaten while others indicate they may be toxic. Low in palatability. Mid to late successional.



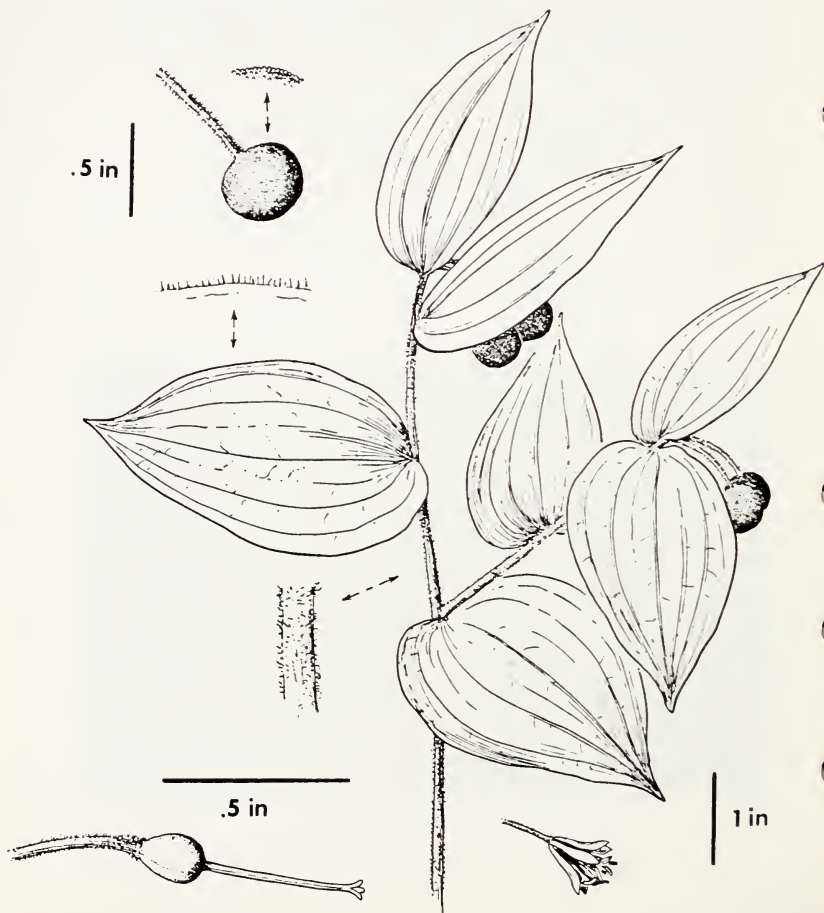
Wartberry Fairybells

Disporum trachycarpum

DITR

Habit: A rhizomatous, sparingly branched, perennial herb; 12 to 24 inches tall.

Description: *Leaves:* oval-elliptic and prominently veined with spreading cilia. *Stems:* brownish to purplish and crisp-pubescent. *Flowers:* (May-July) creamy-white, bell-shaped and hanging in pairs from hairy pedicels below the terminal set of leaves on each branch. *Fruits:* Slightly 3-lobed, papillose (covered with minute bumps), green, yellow or red berries.



Common Horsetail

Horsetail Family

Equisetum arvense

Family Equisetaceae

EQAR

Range: Throughout the Pacific Northwest.

Habitat: Plants of very moist to wet sites, typical of coarse textured substrates even in disturbed areas. A common indicator on road shoulders and railroad right-of-ways of excessive moisture.

Similar Species: Easily confused with other horsetails but the separation of these for our purposes is not necessary. The fertile and infertile forms are quite different in morphology but all are recognizable as horsetails.

Remarks: A geologically old type of plant. Used by the Indians as sandpaper to smooth and polish tools and implements. Unpalatable, poisonous to livestock but the sweet inner pulp may be eaten by humans once the tough outer tissue is peeled away. (Probably should be eaten sparingly!) Also called field horsetail. Early to late successional.



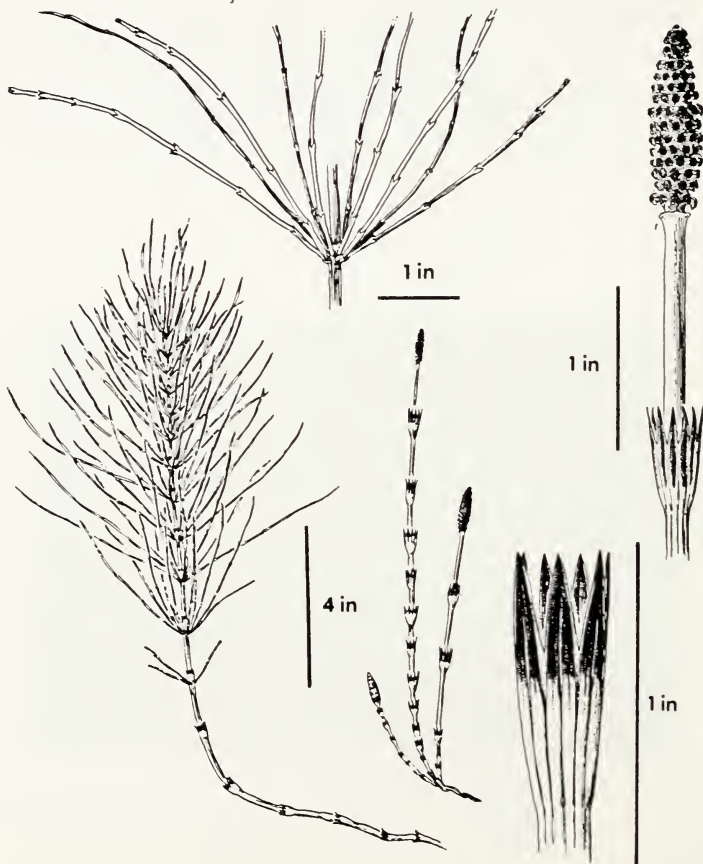
Common Horsetail

Equisetum arvense

EQAR

Habit: A rhizomatous, dimorphic, perennial herb with jointed stems and terminal cones (on fertile forms); and whorled branches (rather than cones) on sterile forms.

Description: Leafless with unlike fertile and sterile forms both with hollow annual stems. Fertile stems are jointed, ephemeral, whitish to brownish and unbranched with a long-stalked, blunt cone at the top. These stems are up to 12 inches tall (about $\frac{1}{4}$ inch thick) and jointed with sheaths at each joint. The annual sterile stems are from 6 to 24 inches in height and green with whorls of branches below the sheaths at each joint.



Sweetscented Bedstraw

Madder Family

Galium triflorum

Family Rubiaceae

GATR

Range: Circumboreal to as far south as Mexico.

Habitat: Cool and moist sites above the Douglas-fir series. Suggests good to excellent Douglas-fir, western larch and lodgepole pine sites with good potential for natural regeneration.

Similar Species: May be confused with other bedstraws (*Galium* spp.) but they are much less common in our area.

Remarks: Roasted and ground seeds can be used as a coffee substitute and the roots yield a yellow dye. Low palatability. Mid to late successional.



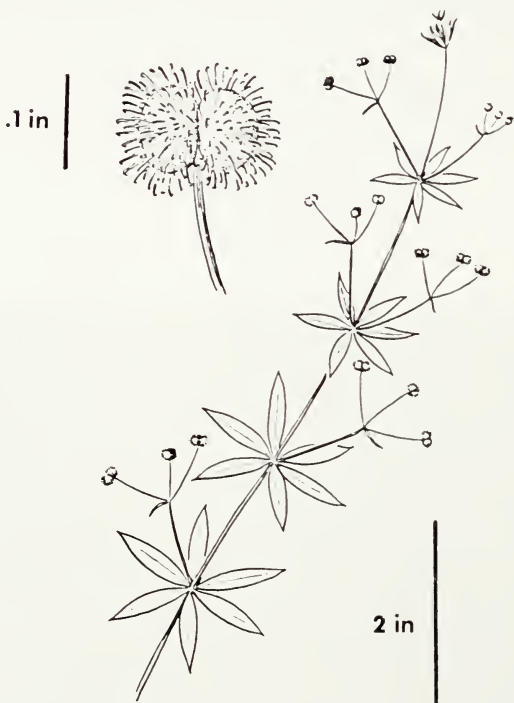
Sweetscented Bedstraw

Galium triflorum

GATR

Habit: A rhizomatous, usually prostrate, perennial herb; 6 to 30 inches tall.

Description: *Leaves:* stalkless, usually in whorls of six, $\frac{1}{2}$ to 2 inches long and vanilla scented. *Stems:* four-angled with stiff, downward-pointing, hooked hairs. *Flowers:* (June-August) small, white, borne in threes (hence triflorum) from peduncles at the leaf axils. *Fruits:* covered with hooked hairs.



Western Rattlesnake Plantain

Orchid Family

Goodyera oblongifolia

GOOB

Family Orchidaceae

Range: Widespread over much of North America.

Habitat: Warm-mesic to cool-wet on well drained soils. Not found in hot-dry or extremely cold environments.

Similar Species: Not easily confused with any other species. It is an orchid but the flowers are small and inconspicuous.

Remarks: Tends to root in the duff and may be the only plant present in densely shaded stands. Indians split the leaves flat-wise and placed them inner side down on cuts. Unpalatable. Mid to late successional.



Western Rattlesnake Plantain

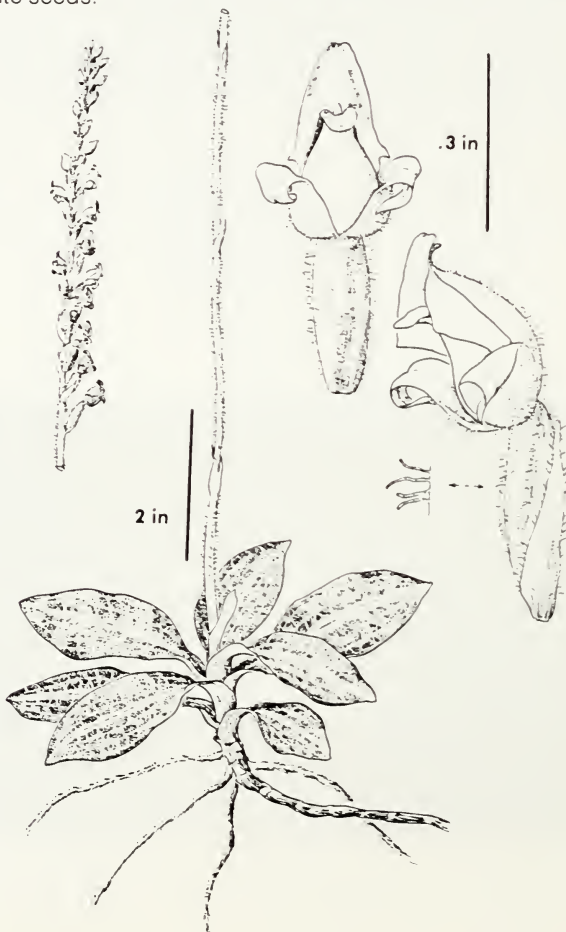
Goodyera oblongifolia

GOOB

Habit: A low, perennial, evergreen herb from short rhizomes; the flower-stalks are 10 to 16 inches tall.

Description: *Leaves:* 1 to 3 inches long, all basal, thickish, somewhat fleshy, dark green and mottled (especially along midrib).

Flowers: (July-August) inconspicuous, greenish-white, glandular-pubescent, in an elongated spike. *Fruits:* small capsules with minute seeds.



Oak Fern

Fern Family

Gymnocarpium dryopteris

GYDR

Family Polypodiaceae

Range: Circumboreal; the Cascades and Rocky Mountains.

Habitat: Moist to wet sites within and above the grand fir series. Extends into drier habitats than lady-fern (*Athyrium filix-femina*). Often on cool, moist terraces and benches near streams.

Similar Species: Not easily confused with any other species. Our only fern with horizontal fronds and dark petioles.

Remarks: When found, seemingly out of place on upland sites, oak fern may indicate a restrictive layer in the soil profile. Unpalatable. Late successional.



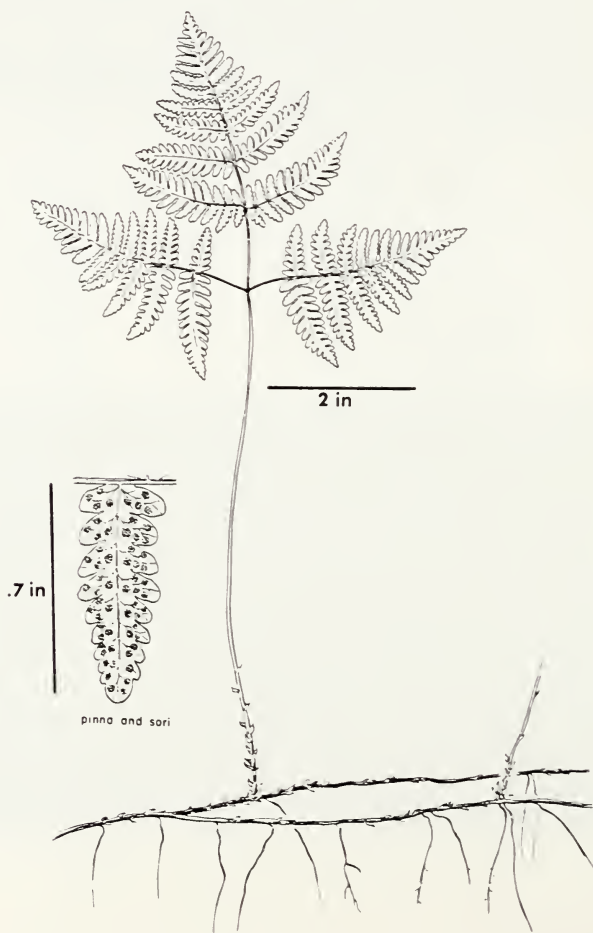
Oak Fern

Gymnocarpium dryopteris

GYDR

Habit: A delicate, rhizomatous, perennial fern, 4 to 12 inches tall.

Description: **Leaves:** (fronds) give the appearance of three leaflets and are horizontal to the ground. The two lower pinnae (leaflets) are opposite and as long as the rest of the blade. **Stems:** the petiole is dark brown to black and as long or longer than the leaf blade. **Sori:** small and circular on the under leaf surface.



White Hawkweed

Aster Family

Hieracium albiflorum

HIAL

Family Compositae

Range: Widespread mountain species.

Habitat: Common in forests except on very wet and cold sites. Most common and abundant on upper elevation sites with drier aspects.

Similar Species: The only white-flowered hawkweed in our area. When not in flower it may be confused with other hawkweeds but it has no stellate (star-shaped) hairs on the herbage as do all other hawkweeds. A 10-power hand lens is needed to see these clearly.

Remarks: One of the largest genera of plants in the world. Relatively few members are native to North America. Highly palatable. Early to mid successional.



White Hawkweed

Hieracium albiflorum

HAL

Habit: A rhizomatous, perennial herb with milky sap; 1 to 3 feet tall.

Description: *Leaves:* 2 to 7 inches long, sparsely to moderately long hairy, with entire to slightly wavy-toothed margins; progressively reduced up the flower stalk. The herbage is loosely, long hairy below; becoming glabrous above. *Flowers:* (June-August) numerous, white, (hence albiflorum), ray flowers in heads within an open inflorescence. *Fruits:* small, plumed achenes.



Few-flowered Peavine

Pea Family

Lathyrus pauciflorus

LAPA3

Family Leguminosae

Range: Widespread on the east slopes of the Cascades, south to California and as far east as Colorado and Arizona.

Habitat: Indicates warm and relatively dry forested environments. Most common in our area in the warmer portions of the grand fir series; often with ponderosa pine and Douglas-fir.

Similar Species: May be confused with some of the vetches (*Vicia* spp.), but these are smaller plants with narrower leaves. The styles of vetches are hairy on all sides; but just at the tip. The styles of peavines have hair most of their length; but just on the upper surface. The difference is like that of a shaving brush compared to a toothbrush.

Remarks: Increases with grazing disturbance as the plant does not appear palatable to ungulates. The seeds and herbage may be poisonous in the same manner as many lupines. There is no specific toxicity information on few-flowered peavine. Early to mid successional.



Few-flowered Peavine

Lathyrus pauciflorus

LAPA3

Habit: An erect to prostrate, perennial herb from a strong taproot and short rootstock; 8 to 30 inches tall.

Description: *Leaves:* alternate, with tendrils at the ends, pinnately compound; with 8-10 oval-shaped leaflets. *Stems:* green and angled. *Flowers:* (April-June) 4-7, pea-like, pinkish to violet-purple, aging to bluish; in a raceme. *Fruits:* pods 1½ to 2 inches long.



Silvercrown Luina

Aster Family

Luina nardosima

LUNA2

Family Compositae

Range: East slope of the Cascades in Washington and northern Oregon.

Habitat: Indicates dry to moderately moist environments; most conspicuously in disturbed areas. Not normally found on granitic soils. It is most common on basalts and sedimentary based substrates.

Similar Species: Not easily confused with any other species.

Remarks: Unpalatable, increases with overgrazing and may be abundant on old stock driveways or in shady areas near meadows that are heavily used by elk or cattle. Early to mid successional.



Silvercrown Luina

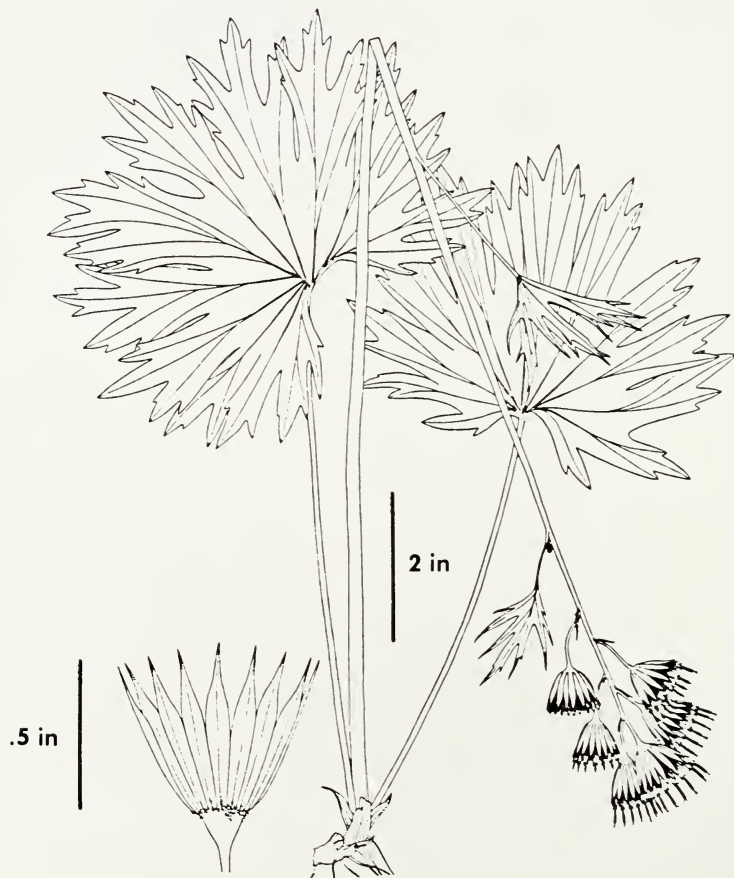
Luina nardosima

LUNA2

Habit: A robust, 16 to 40 inches tall, perennial herb from a woody rhizome.

Description: *Leaves:* long-petioled; the blades are deeply cleft and about 8 inches long by 10 inches wide. The distinctive basal leaves are always larger than the stem leaves which are fewer and strongly reduced upward. *Stems:* hollow, ribbed and greenish in color.

Flowers: (May-July) the small individual disk flowers are carried in large flower-heads (up to 1 inch wide), with no ray flowers. *Fruits:* plumed achenes.



Broadleaf Lupine

Pea Family

Lupinus latifolius

Family Leguminosae

LULA

Range: Widespread on both sides of the Cascades and east into the Rocky Mountains from Alaska south to California and east to Idaho.

Habitat: Most common on mid to upper elevation sites with cool-cold and moist conditions. Indicates good to very good sites for natural regeneration.

Similar Species: Easily confused with other lupines, especially bigleaf lupine (*L. polyphyllus* var. *burkei*). It is often impossible to be certain of species identification; especially in the Wenatchee Mountains. Broadleaf lupine is representative of all the relatively hairless, bright-green lupines that grow in more moist environments than the hairy leaved lupines.

Remarks: Moderately palatable even though it is somewhat poisonous. The younger plants and seed pods contain more toxin. Sheep are particularly susceptible. Early to mid successional.



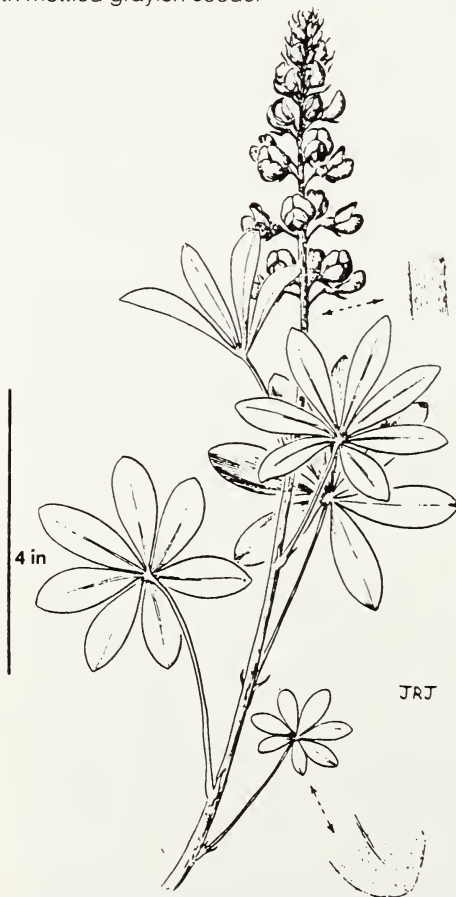
Broadleaf Lupine

Lupinus latifolius

LULA

Habit: A perennial herb with several stems from a branched rootstock; 16 to 40 inches tall.

Description: *Leaves:* compound, relatively broad; arising mostly from near the base. They have 7-9 leaflets arranged like fingers on a hand. The leaflets are normally hairless and bright green above to hairy beneath. *Flowers:* (June-August) blue, "pea-like" and in an elongated cluster. The banner is not hairy. *Fruits:* pods about 1 inch long with mottled grayish seeds.



Silky Lupine

Pea Family

Lupinus sericeus

Family Leguminosae

LUSE

Range: Widespread east of the Cascades as far east and south as New Mexico.

Habitat: Normally a low to mid elevation species within the Douglas-fir series but may occur at high elevations on southerly aspects with whitebark pine. It indicates warm and dry environments with moderate to severe soil drought and difficult reforestation problems. Occurs on warmer and drier sites than broadleaf lupine (*L. latifolius*).

Similar Species: Easily confused with and interbreeds with several other lupine species including sulphur lupine (*L. sulphureus*).

Lupines are especially difficult to identify to species in the Wenatchee Mountains. Silky lupine is representative of the hairy-leaved lupines that typify relatively dry forested environments.

Remarks: Increases with overgrazing and the seeds contain toxic alkaloids especially poisonous to sheep. The plants are toxic to other animals and to humans. Moderately palatable. Early to mid successional.



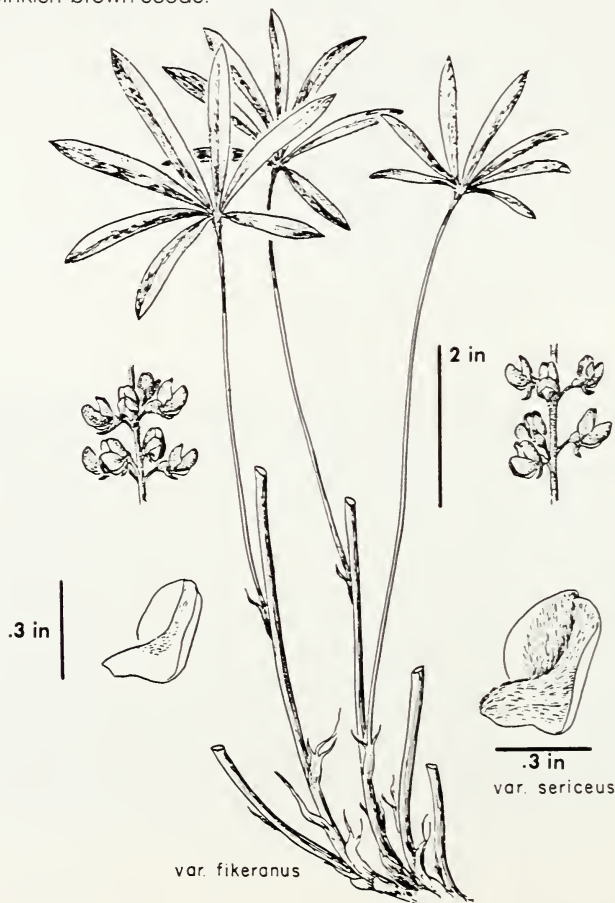
Silky Lupine

Lupinus sericeus

LUSE

Habit: A perennial herb, 8 to 20 inches tall from a branching, woody rootstock.

Description: *Leaves:* compound, hairy or silky (sericeus) on both sides with relatively long, narrow and pointed leaflets. The hairy leaves give the plant a blue-green appearance. *Flowers:* (May-August) blue with some hair on the back of the banner. *Fruits:* resemble pea pods; silky, about 1 inch long and contain 3-5, pinkish-brown seeds.



Sweetroot

Parsley Family

Osmorhiza chilensis

Family Umbelliferae

OSCH

Range: Widespread mountain species.

Habitat: Fairly dry sites within the Douglas-fir zone to more moist sites within and above the grand fir series.

Similar Species: May be confused with the less common species: Western sweetroot (*O. occidentalis*) which has a strong licorice scent and glabrous fruit; or purple sweetroot (*O. purpurea*) which has purple flowers and fruits generally less than 1/2 inch long.

Remarks: The roots are edible. The fruit clings tenaciously to clothing. Also known as sweet-cicely. Highly palatable. Early to mid successional.



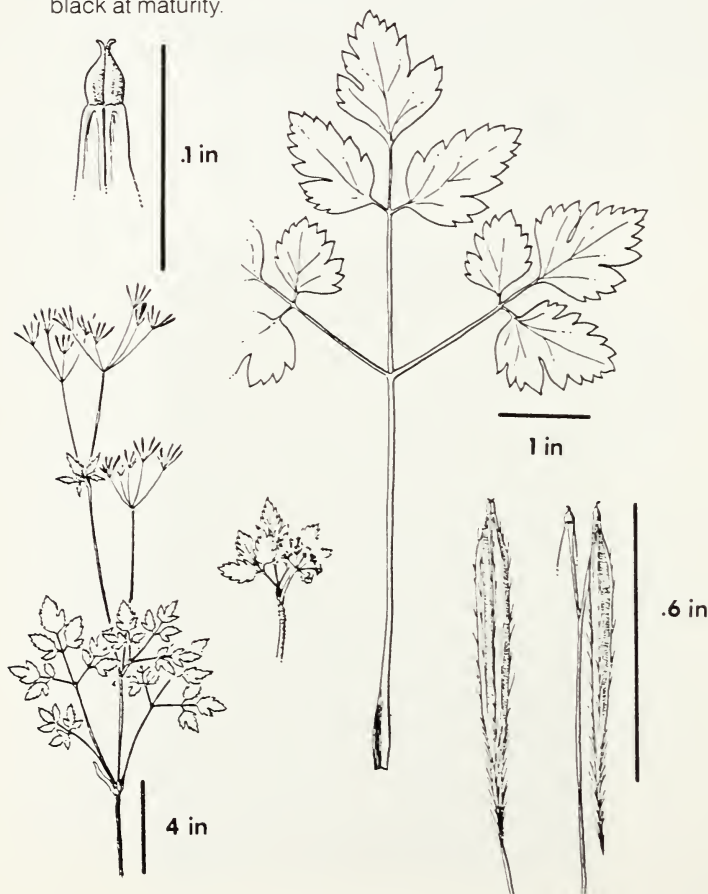
Sweetroot

Osmorhiza chilensis

OSCH

Habit: A perennial herb from a well developed taproot; 12 to 40 inches tall.

Description: *Leaves:* thin, twice ternate, coarsely toothed and 1 to 3 inches long. The basal ones have long petioles while those above are well developed with short petioles. The herbage is not strongly licorice scented. The stem is normally branched with several inflorescences (umbels). *Flowers:* (April-June) inconspicuous and greenish-white in color. *Fruits:* green, $\frac{1}{2}$ to 1 inch long, narrow, sharply beaked and hairy (a schizocarp); becoming hard and black at maturity.



Bracted Pedicularis

Figwort Family

Pedicularis bracteosa

PEBR

Family Scrophulariaceae

Range: Widespread species of mountains.

Habitat: Moist (but not wet) sites, generally at or above the grand fir series. Commonly indicates higher elevation sites within the grand fir series.

Similar Species: May be confused with elephant's head (*P. groenlandica*) another compound-leaved lousewort, but the latter grows in wet sites.

Remarks: An intermediate host for stalactiform blister rust. Unpalatable. Mid to late successional.



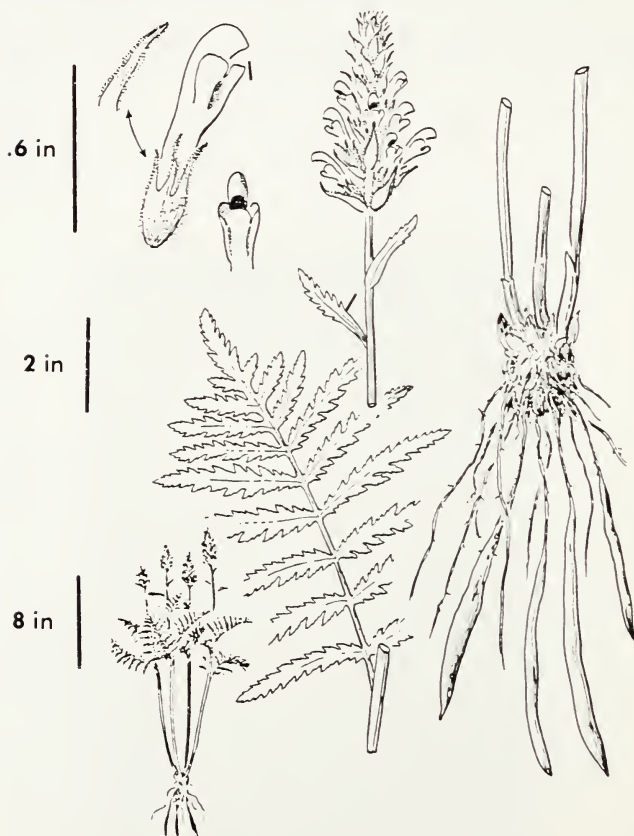
Bracted Pedicularis

Pedicularis bracteosa

PEBR

Habit: An erect, fibrous-rooted, perennial herb up to 3 feet tall.

Description: **Leaves:** alternate, pinnately divided (fern-like), glabrous, doubly serrate and up to 3 inches long; the lower ones petiolate. The leaves are reduced upward. **Flowers:** (June-August) beakless, two-lipped, yellow, purple or red; in a crowded spike-like raceme. **Fruits:** curved, (arched), capsules with several small seeds.



Sickletop Pedicularis

Figwort Family

PERA

Pedicularis racemosa

Family Scrophulariaceae

Range: Widespread species of mountains.

Habitat: A mid to upper elevation species most common and abundant on cool and moist sites within the grand fir series but more representative of silver fir.

Similar Species: Not easily confused with any other species because of the distinctive leaves. Our only simple-leaved pedicularis.

Remarks: Pedicularis species are intermediate hosts for stalactiform blister rust. Unpalatable. Mid to late successional.



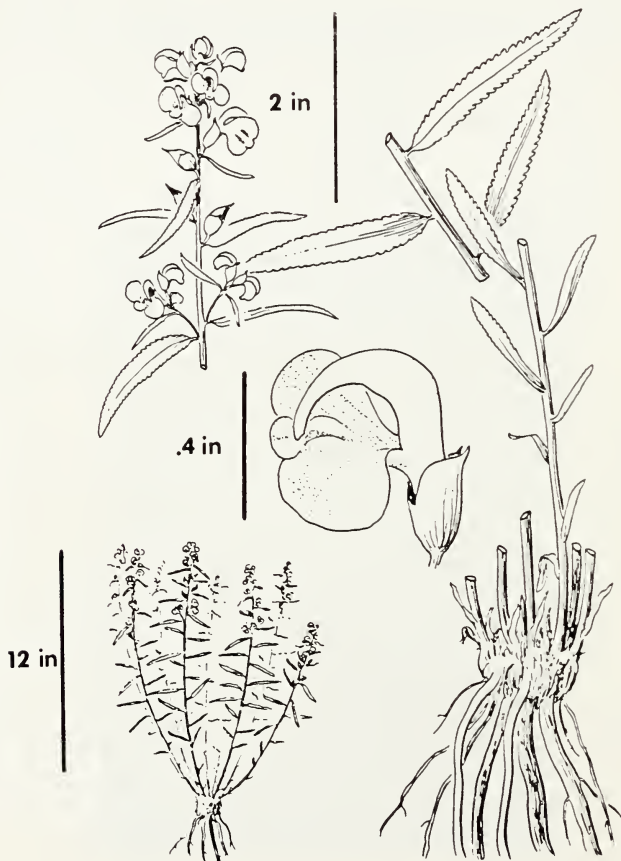
Sickletop Pedicularis

Pedicularis racemosa

PERA

Habit: A perennial herb with clustered stems from a woody caudex; 6 to 20 inches tall.

Description: *Leaves:* simple, alternate, cauline, short-petiolate, linear to lanceolate and 2 to 4 inches long. The leaf margins are doubly serrate. *Flowers:* (June-September) irregular and whitish, (may be yellow or rose tinged). The arched galea tapers into a slender downcurved beak that approaches (or may touch) the prominent lower lip. *Fruits:* curved, (arched), capsules with several small seeds.



Western Swordfern

Fern Family

Polystichum munitum

POMU

Family Polypodiaceae

Range: Alaska to California, east through northern Washington to northern Idaho and northwestern Montana.

Habitat: Very moist sites within and above the grand fir series with a strong maritime climatic influence. Generally indicates sites that are moist, moderate and productive.

Similar Species: May be confused with mountain hollyfern (*P. lonchitis*) which has pinnae that are strongly reduced toward the base of the fronds.

Remarks: Commercially collected for floral use; makes a nice ornamental. Two varieties are recognized: var. *munitum* of wet sites and var. *imbricans* in distinctly drier places. Variety *munitum* is our most common. Unpalatable. Mid to late successional.



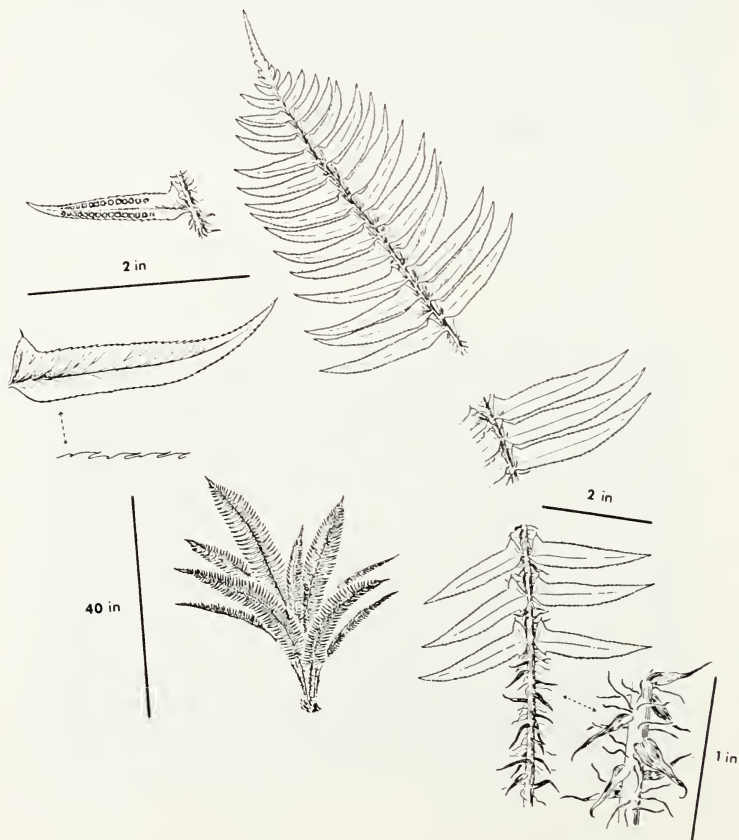
Western Swordfern

Polystichum munitum

POMU

Habit: Large, tufted, evergreen, perennial fern; to over 4 feet tall.

Description: **Leaves:** stiffly erect, coarse and leathery; emerging from a short, stout rhizome covered with reddish-brown scales. They have a chaffy base, may be up to 5 feet long and are tapered at both ends (but only slightly to the base). There are 35-70 offset pinnae on each side of the rachis. The pinnae are 1 to 6 inches long and serrate with incurved, spinulose teeth. **Sori:** circular and borne (usually in a single row) on the under sides of the middle and upper pinnae.



Arrowleaf Groundsel

Aster Family

Senecio triangularis

Family Compositae

SETR

Range: Widespread mountain species in suitable habitats.

Habitat: Occupies wet to (sometimes) moist sites at mid to upper elevations. Indicates waterlogged soils with attendant problems in road construction and reforestation.

Similar Species: Not easily confused with any other species because the leaf shape and flower heads with black-tipped bracts are distinctive.

Remarks: Some groundsel species are noxious weeds but not so with arrowleaf groundsel. Some people use some groundsels as part of the herbs used in "comfrey" herbal teas. At least some groundsels contain toxic alkaloids so use for teas is not recommended. Moderately palatable. Mid to late successional.



Arrowleaf Groundsel

Senecio triangularis

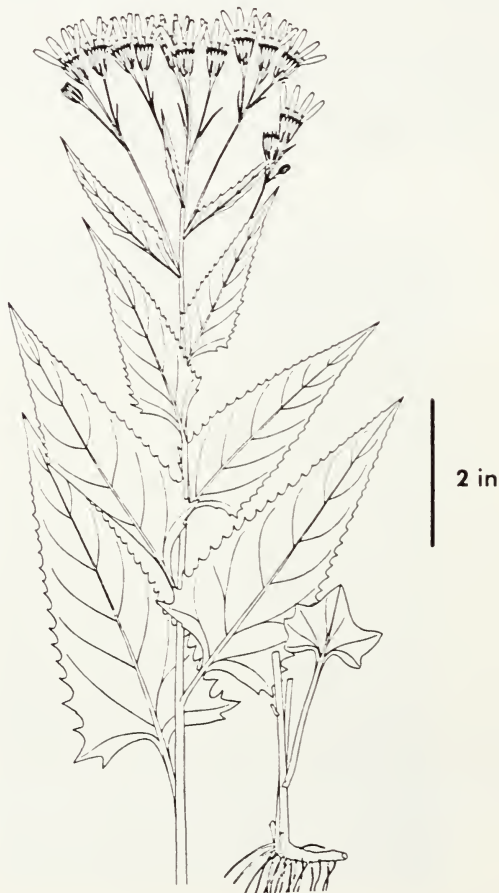
SETR

Habit: A tall, 1 to 5 feet, lush, perennial forb; the several stems arising from fibrous roots.

Description: *Leaves:* narrowly triangular, and strongly toothed. The lower ones with petioles 2 to 8 inches long. They are reduced upward becoming sessile (or nearly so) and less triangular.

Flowers: (June-September) many, small, yellow; in few to numerous heads borne in a flat-topped inflorescence. The involucral bracts are equal and black tipped (characteristic of the genus *Senecio*).

Fruits: small, plumed seeds (achenes).



Starry Solomonplume

Lily Family

Smilacina stellata

SMST

Family Liliaceae

Range: Widespread in North America. Both sides of the Cascades and in the Rocky Mountains.

Habitat: Indicative of cool and moist sites at mid elevations, most commonly within and above the grand fir series.

Similar Species: May be confused with feather solomonplume (*S. racemosa*), but the latter has larger and broader leaves with many flowers in a terminal raceme. It also may be confused with some of the twistedstalk (*Streptopus*) species but these tend to have branched stems and the flowers are in the leaf axils. May also be confused with fairy bells (*Disporum*) species but these have branched brownish stems and shorter, broader leaves.

Remarks: The rhizomes were dried then soaked and steamed or eaten raw by Indians. The water used to boil the roots made a sweet-tasting medicine for colds and to increase appetite. The berries are edible but have strong laxative properties. Also known as starry false Solomon's seal. Unpalatable. Mid to late successional.



Starry Solomonplume

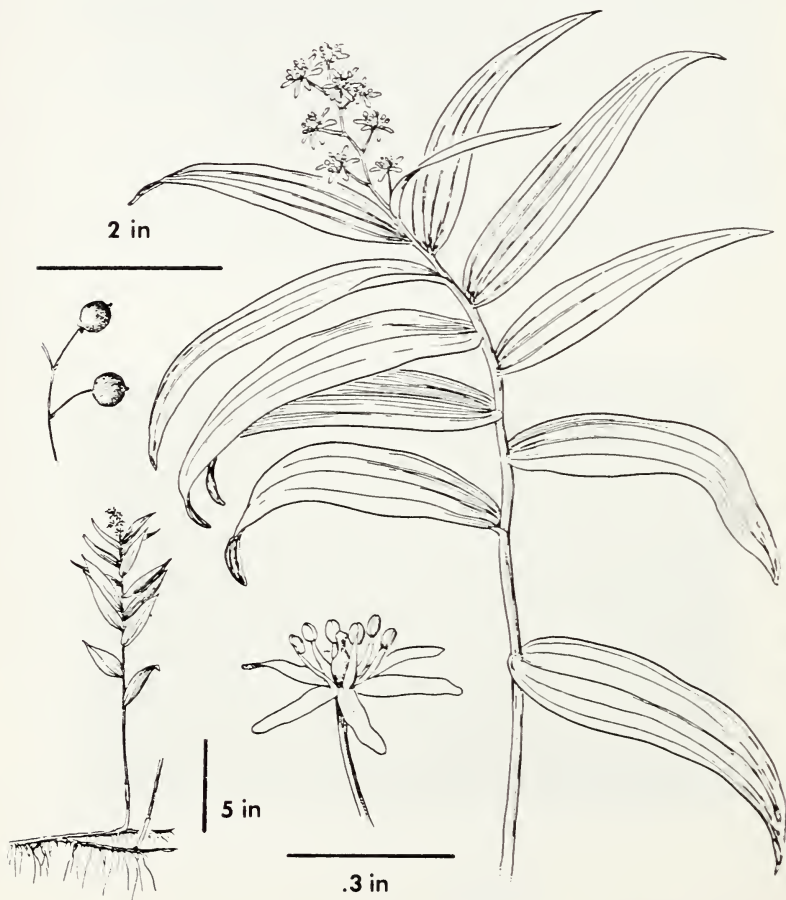
Smilacina stellata

SMST

Habit: A rhizomatous, unbranched, perennial herb; 8 to 24 inches tall.

Description: *Leaves:* alternate, narrow, 2 to 3 inches long, pointed, prominently veined and sessile. *Stems:* unbranched and green.

Flowers: (May-June) white, 5-10, borne in a terminal raceme with a zigzag rachis. *Fruits:* greenish-yellow berries; becoming blackish with age.



Claspleaf Twistedstalk

Lily Family

Streptopus amplexifolius

STAM

Family Liliaceae

Range: Widespread through much of Canada and the United States.

Habitat: A species of wet to sometimes moist environments usually at middle elevations. It indicates waterlogged soils with attendant problems in reforestation and road construction.

Similar Species: May be confused with fairybells (*Disporum* spp.), Solomonplume (*Smilacina* spp.) and other twistedstalks. The relatively large stature and branched, green stems of claspleaf twistedstalk are distinctive.

Remarks: The berries are are reputed by some to be edible. Moderately palatable. Mid to late successional.



Claspleaf Twistedstalk

Streptopus amplexifolius

STAM

Habit: A freely branched, perennial herb; 2 to 4 feet tall.

Description: **Leaves:** 2 to 5 inches long, ovate, acuminate with clasping bases. **Stems:** green and branched. **Flowers:** (May-July) greenish-white, occurring singly beneath each leaf and borne on a twisted (kinked) stalk. **Fruits:** bright orange, oblong berries.



Rosy Twistedstalk

Lily Family

Streptopus rosea

Family Liliaceae

STRO

Range: Alaska south through the Cascades to northern Oregon and east to southeast British Columbia.

Habitat: Moist sites mainly within the silver fir series.

Similar Species: Most easily confused with Kruhsea twistedstalk (*S. streptopoides*), a smaller species with no marginal cilia. It may also be confused with fairybells (*Disporum* spp.) which have branched, brown stems or Solomonplume (*Smilacina* spp.) which have terminal inflorescences and no cilia on leaf margins; or claspleaf twistedstalk (*S. amplexifolius*) which is a taller, branched plant with reflexed tepals.

Remarks: The berries are reputed to be edible. Low to moderate platability. Mid to late successional.



Rosy Twistedstalk

Streptopus rosea

STRO

Habit: An unbranched, rhizomatous, perennial herb; to 12 inches tall.

Description: *Leaves:* ovate-elliptic, up to 4 inches long with minute, white cilia along the leaf margins. *Stems:* sparsely pubescent-fringed at the nodes and normally unbranched. *Flowers:* (June-July) borne singly or occasionally in pairs in the leaf axils on coarsely though sparsely pubescent peduncles. They are white or greenish-yellow with purple to rose colored spots and white tips. The tepals are not reflexed. *Fruits:* red berries.



Western Meadowrue

Buttercup Family

Thalictrum occidentale

THOC

Family Ranunculaceae

Range: British Columbia south through the Cascades to northern California and east through the Rocky Mountains to Colorado.

Habitat: Widespread in moderate environments. It indicates good to excellent growth potential for Douglas-fir and western larch.

Similar Species: The foliage is easily confused with that of columbine (*Aquilegia* spp.) which have larger, less dissected, and more conspicuously veined leaflets.

Remarks: Female and male plants are separate (dioecious) so the "fruits" may look much different on plants with the same foliage. Unpalatable. Early to mid successional.



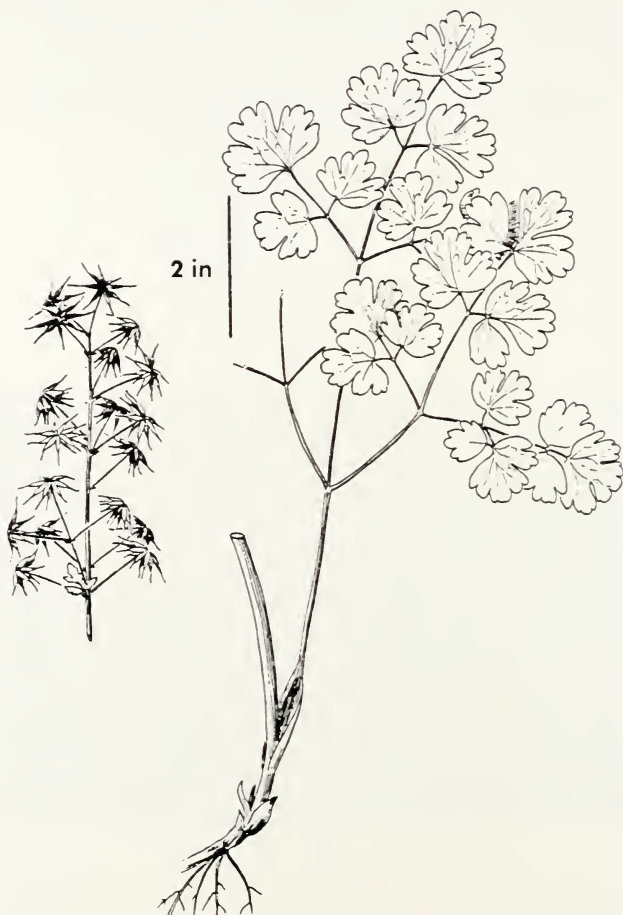
Western Meadowrue

Thalictrum occidentale

THOC

Habit: A delicate, dioecious, perennial; 1 to 3 feet tall.

Description: **Leaves:** compound, with horizontally arranged leaflets, 3-4 times ternate and cauline. The leaflets are thin, glabrous, rounded, and 3-lobed. **Flowers:** (May-July) inconspicuous, greenish-white to purplish borne in a panicle. **Fruits:** small, spindle-shaped seeds (achenes).



Coolwort Foamflower

Saxifrage Family

Tiarella unifoliata

TIUN

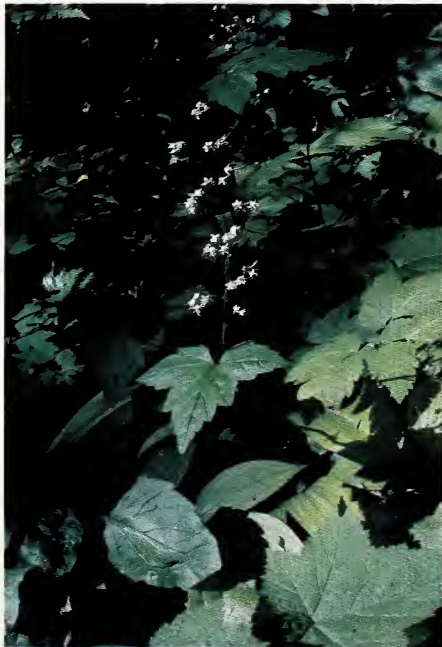
Family Saxifragaceae

Range: Widespread from Alaska to California and east to western Montana.

Habitat: Moist, moderate to cool sites normally above the grand fir series. Indicates productive sites with good potential for natural regeneration but herbaceous competition may be a problem if reforestation is delayed.

Similar Species: The foliage may be mistaken for that of some of the various miterworts (*Mitella* spp.), but the capsules are much different in shape.

Remarks: Most of our plants are distinctly not trifoliate. The full accepted name is *T. trifoliata* var. *unifoliata* but we find the shorter, non-varietal name more meaningful for nearly all plants in our area. Unpalatable. Late successional.



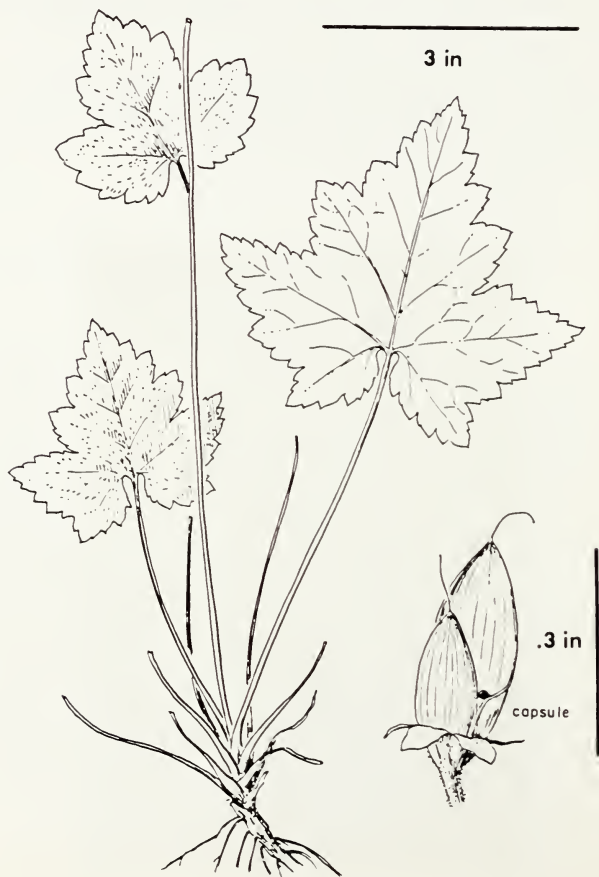
Coolwort Foamflower

Tiarella unifoliata

TIUN

Habit: A perennial herb from slender rootstocks; the flowering stems 8 to 20 inches tall.

Description: *Leaves:* simple, slightly 5 to clearly 3-lobed and $\frac{1}{2}$ to less than 3 inches long. The basal leaves are usually glandular-hairy as are the flowering stems. *Flowers:* (May-August) small, white, bell-shaped, borne in a narrow panicle. *Fruits:* conspicuous, unequally 2-valved capsules that extend beyond the calyxes. The seeds are small, nearly black, and smooth.



False Bugbane

Buttercup Family

Trautvetteria caroliniensis

TRCA3

Family Ranunculaceae

Range: Widely distributed in North America and Japan.

Habitat: Found in cool, moist to wet environments at mid to upper elevations. Indicates very moist to water-logged soils.

Similar Species: May be confused with the relatively uncommon western coltsfoot (*Petasites frigidus*), which has whitish flowers and leaves covered with long white hairs on the undersurface.

Remarks: Unpalatable, may be poisonous, hence bugbane. Late successional.



False Bugbane

Trautvetteria caroliniensis

TRCA3

Habit: An erect, widely spreading, rhizomatous, perennial herb with a flowering stem 20 to 32 inches tall.

Description: *Leaves:* large, 4 to 14 inches wide, mostly basal, long-petioled and 5-11 lobed. The 1-2 cauline leaves are alternate on short petioles. *Flowers:* (May-August) inconspicuous, white to greenish in a branched, terminal inflorescence. *Fruits:* small, hooked seeds (achenes).



Western Starflower

Primrose Family

Trientalis latifolia

TRLA2

Family Primulaceae

Range: Southern British Columbia to California; east to Alberta and northern Idaho. Scarce in our area except south of the Entiat River.

Habitat: Moderately dry to moist sites at middle elevations; mainly within the grand fir series.

Similar Species: Not easily confused with any other species.

Remarks: The other common name, Indian potato, suggests this species may have an edible tuber. Also known as broad-leaved starflower. Unpalatable. Mid successional.



Western Starflower

Trientalis latifolia

TRLA2

Habit: A rhizomatous, perennial herb; to 10 inches tall with leaves in a single whorl.

Description: *Leaves:* 4-8, 1 to 4 inches long, entire and occur in a single terminal whorl. *Flowers:* (April-July) rose to pink, up to 1/2 inch across with 6-7 petals borne on slender pedicels. The plant emerges from an erect tuber up to 1 inch long. *Fruits:* valved capsules with numerous seeds.



Trillium

Lily Family

Trillium ovatum

TROV

Family Liliaceae

Range: British Columbia to central California and east to Colorado. In our area it is most common south of the Entiat River.

Habitat: It indicates moderately dry to moist, cool sites. Typical of, but not restricted to, the grand fir series.

Similar Species: The only common trillium in our area. Quite similar to the rare giant trillium (*T. chloropetalum*) which has sessile flowers and mottled leaves.

Remarks: Used by the Indians for a variety of medical purposes and it has been listed in herbalist manuals in this century as a tonic, astringent, alterative, antiseptic and emmenagogue. Unpalatable. Mid successional.



Trillium

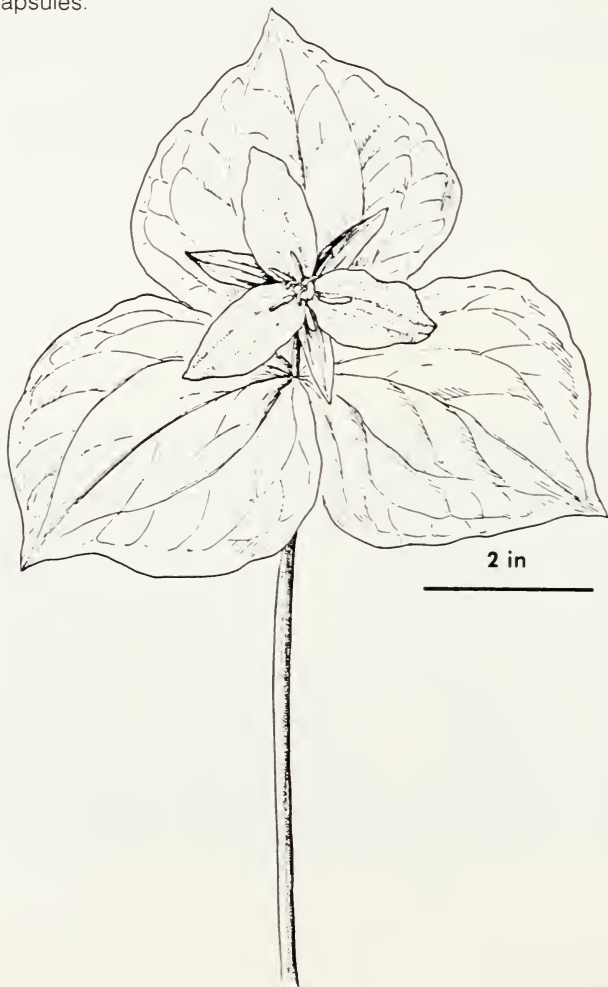
Trillium ovatum

TROV

Habit: An erect, glabrous, perennial herb, 4 to 12 inches tall with short, thick rhizomes.

Description: *Leaves:* large, 2 to 6 inches long, sessile, broadly ovate and occur in a whorl of three at the top of a naked stem.

Flowers: (March-June) solitary, white (aging to pink), on a stalk (peduncle) above the leaves. *Fruits:* berry-like, three-celled capsules.



Sitka Valerian

Valerian Family

VASI

Valeriana sitchensis

Family Valerianaceae

Range: Mainly east of the Cascade Crest.

Habitat: An upper elevation species indicating cold to very cold and wet sites with heavy snowpacks and moderate to severe regeneration difficulty.

Similar Species: Not easily confused with any other species except other valerians. However the other valerians are much less common in our area. Wenatchee valerian is a more showy, smaller plant that grows in drier environments.

Remarks: Most common member of this family in our area and one of only two native genera (the other is *Plectritis*) in the Northwest. Palatable. Mid to late successional.



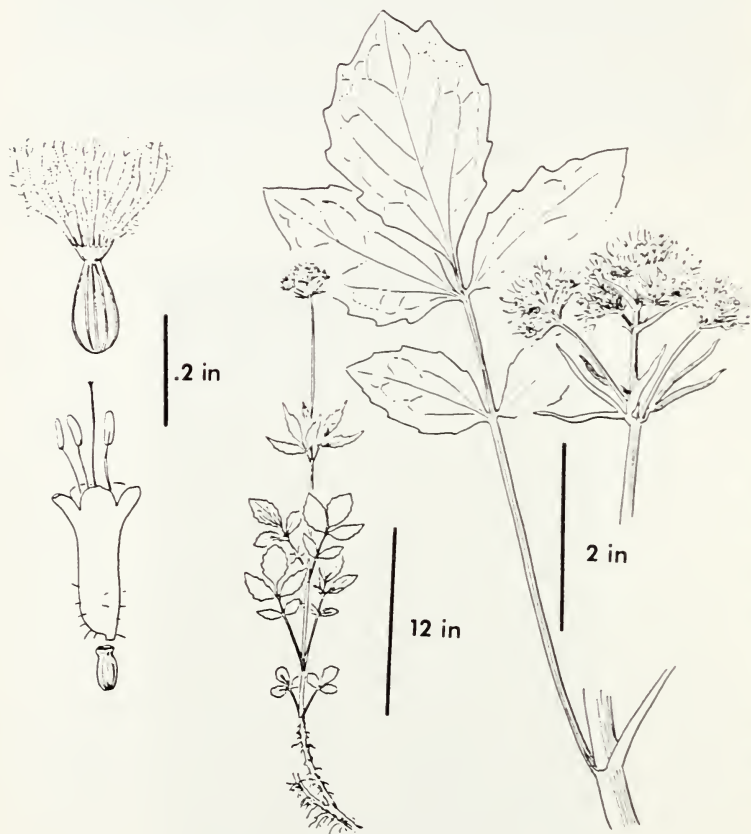
Sitka Valerian

Valeriana sitchensis

VASI

Habit: A fibrous rooted, perennial herb from a stout, aromatic rhizome; 1 to 4 feet tall.

Description: *Leaves:* compound, opposite, in 2-5 pairs. Most are cauline with the lowest and highest pairs reduced. The leaflets are toothed with the terminal leaflet the largest. *Flowers:* (June-August) small, white, sweet-scented with 3 exserted anthers and borne in a compact inflorescence. *Fruits:* smooth, plumed seeds (achenes).



American False Hellebore

Lily Family

Veratrum viride

VEVI

Liliaceae

Range: Alaska through the Olympic and Cascade mountains south to Oregon and east to Montana and Idaho. Across Canada through Ontario and Quebec then south to North Carolina in the eastern United States.

Habitat: Wet meadows, swamps and some forested sites from low elevation to alpine. Indicates sites with high water tables that are slow to reforest. Often on soils with a high clay content.

Similar Species: A distinctive species easily confused only with other false hellebores; especially western false hellebore (*V. californicum*). The latter has white flowers in an erect panicle and is much less common in our area.

Remarks: The entire plant is poisonous but the roots and young shoots are the most toxic. The roots contain many different alkaloids and have been used as a source of heart and artery medicine. When dried and powdered they have been used as an insecticide. Many different insects are said to be poisoned by the blossoms. The roots are externally very black in color and the generic name *Veratrum* is from the Latin *vere*, truly, and *ater*, black. Unpalatable and it increases under heavy grazing suggesting past range abuse where abundant. Early successional.



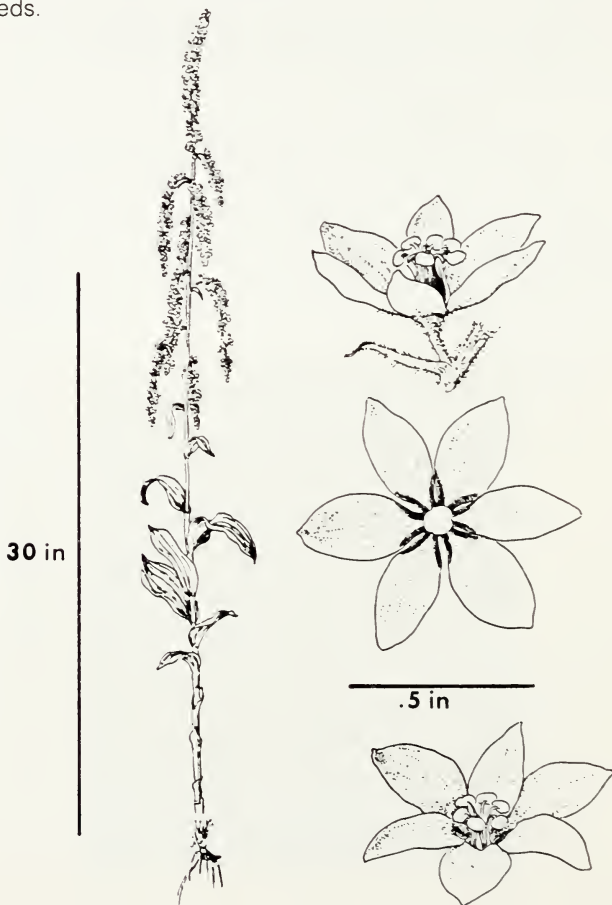
American False Hellebore

Veratrum viride

VEVI

Habit: A large, erect, robust, succulent, perennial herb to over 6 feet tall with unbranched, leafy stems arising from a thick, black rootstock.

Description: *Leaves:* large (6 to 12 inches), oblong-elliptic, coarse, plaited or folded and heavily ribbed; reduced upward and sheathing at the base. *Stems:* resembles a cornstalk, hollow, glabrous below to rather strongly tomentose above, especially in the inflorescence. *Flowers:* many, small, yellow-green to deep green in color in an open panicle with the lower flower clusters strongly drooping. *Fruits:* smooth, 3-celled capsules with numerous winged seeds.



Pioneer Violet

Violet Family

Viola glabrella

Family Violaceae

VIGL

Range: From northeast Asia to Alaska, south in Cascades into California and east to Montana.

Habitat: Typifies seasonally moist to wet sites at mid to upper elevations. Indicates good to excellent sites for tree growth.

Similar Species: Easily confused with some other violets but the clear yellow flowers with purple penciling in combination with the pointed leaves are distinctive.

Remarks: The herbage is probably useful for salad greens. Violets have been used for a variety of medicinal purposes. Unpalatable. Early successional.



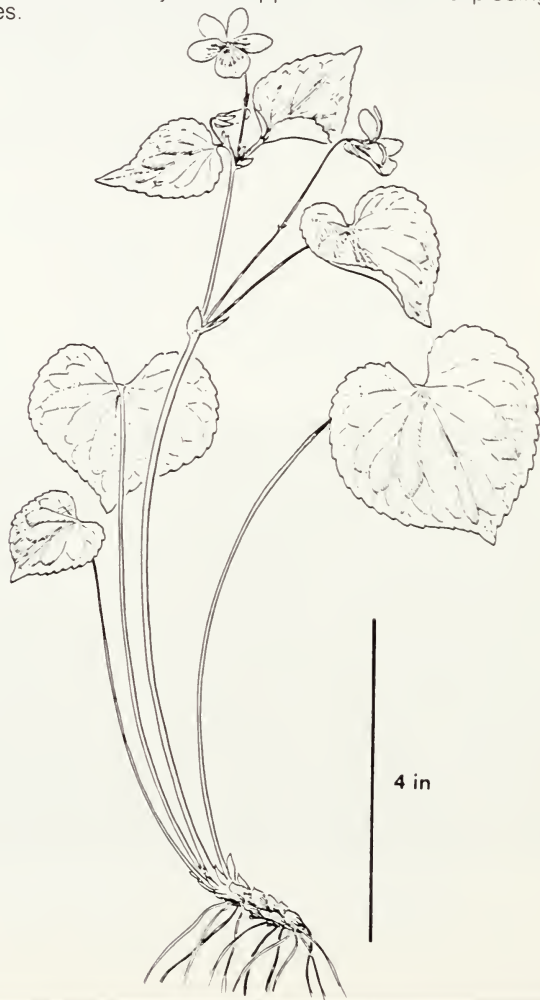
Pioneer Violet

Viola glabrella

VIGL

Habit: A perennial herb from spreading, scaly, fleshy rootstocks; 2 to 12 inches tall.

Description: *Leaves:* serrated, pointed; kidney to somewhat heart-shaped and 1 to 3 inches wide. The basal leaves have long petioles. *Flowers:* (March-July) yellow with purplish penciling on the lower 3 petals and borne mainly on the upper stem. *Fruits:* exploding capsules.



Round-leaved Violet

Violet Family

Viola orbiculata

Family Violaceae

VIOR2

Range: Widespread in moist environments up to alpine conditions on the west of the Cascades. Found as far east as Montana.

Habitat: A mesic species commonly associated with grand fir, western red cedar and western hemlock. Indicates moderate sites at mid to upper elevations in our area.

Similar Species: May be confused with other violets except for the round leaves (i.e. not noticeably pointed).

Remarks: The herbage is probably useful for salad greens. Violets have been used for a variety of medicinal purposes. Unpalatable. Mid to late successional.



Round-leaved Violet

Viola orbiculata

VIOR2

Habit: A short, 2 inch tall, glabrous, perennial herb often with some persistent (over wintering) leaves.

Description: *Leaves:* round, thin, serrated and 1 to 2 inches across. Some leaves may be semi-evergreen and persist through the winter. *Flowers:* (May-August) lemon-yellow to gold with the 3 lower petals purple streaked at the base. *Fruits:* exploding capsules.



Goosefoot Violet

Violet Family

Viola purpurea
Family Violaceae

VIPU

Range: Chelan County, Washington south to California and Arizona and east to Montana, Wyoming and Colorado.

Habitat: Typifies dry sites in our area; commonly on serpentine parent materials. Indicates severe reforestation/revegetation problems.

Similar Species: The leaf shape and foliage color are distinctive and it is not easily confused with other violets.

Remarks: Chelan County is the species' northern range limit in the state. The herbage is probably useful for salad greens. Violets have been used for a variety of medicinal purposes. Unpalatable. Early to mid successional.



Goosefoot Violet

Viola purpurea

VIPU

Habit: A small, perennial herb 2 to 6 inches tall; from a shallow to deep-seated, rather scaly rhizome.

Description: *Leaves:* puberulent (as are the stems), glaucous-green and purplish or at least purplish-veined. The thick, fleshy leaves are $\frac{1}{2}$ to $1\frac{1}{2}$ inches across, ovate or orbicular to lanceolate in outline and are deeply toothed to subentire. The leaf veins are noticeably recessed into the upper leaf surfaces. *Flowers:* (May-August) yellow with brownish penciling often fading to light brownish-purple. *Fruits:* exploding capsules.

1 in





Bluebunch Wheatgrass

Grass Family

Agropyron spicatum

AGSP

Family Gramineae

Range: Alaska to California, east to the Dakotas and New Mexico. Widespread east of the Cascades.

Habitat: Dry, hot-warm environments extending from shrub-steppe and partially closed forest to closed forest Douglas-fir sites. On drier sites it is a bunchgrass while in more moist forested stands it may be rhizomatous.

Similar Species: May be confused with seeded domesticated wheatgrasses.

Remarks: Highly palatable, one of the most important native grasses for forage. Occurs in both awnless and awned varieties. The awnless variety is most common on the Okanogan National Forest. A selection of awnless bluebunch wheatgrass is commercially marketed as "Whitmar wheatgrass". The Indians used it for tinder, padding their moccasins (especially in winter), and for bedding material. Early to late successional.



Bluebunch Wheatgrass

Agropyron spicatum

AGSP

Habit: A normally caespitose, perennial grass; 1 to 3 feet tall.

Description: **Leaves:** pubescent, bluish-green, erect, flat to slightly inrolled, about $\frac{1}{4}$ inch wide and $\frac{1}{4}$ inches long with well developed auricles. The ligule is short and collar-like. **Flowers:** (June-August) the lemmas are awned with a 1 inch divergent awn; to awnless in the awnless variety (*A. spicatum* var. *inermis*). The inflorescence is an erect spike. **Fruits:** small, hard seeds that resemble small wheat kernels.



Northwestern Sedge

Sedge Family

Carex concinnoides

CACO

Family Cyperaceae

Range: British Columbia to northern California, east to northeastern Oregon, western Montana and Alberta.

Habitat: Widespread in a variety of habitats including cold, moist sites. Increases under moderate disturbance and grazing but intolerant of dense shade. Usually seen without seed heads.

Similar Species: Easily confused with Ross sedge (*C. rossii*) but the latter has reddish culm bases and no rhizomes. May be confused with other sedges and with grasses to the casual observer. The relatively short-broad leaves and sedge leaf pattern make it easily recognized once learned.

Remarks: May hinder tree regeneration in dense clumps. Unpalatable. Mid successional.



Northwestern Sedge

Carex concinnoides

CACO

Habit: A rhizomatous, perennial sedge; the seed-head 6 to 14 inches tall.

Description: *Leaves:* 3-ranked, firm, shiny green and 2 to 5 mm wide. The sheaths at the base of the solid triangular stems are brownish and the plant remains green over winter. Commonly forms loose mats from well developed creeping rhizomes. The leaves are longer than the inflorescence; but are usually low and spreading.

Flowers: (April-July) the inflorescence consists of an uppermost staminate spike with 1-3 pistillate spikes beneath. A small bract subtends the lowest pistillate spike. *Fruits:* small achenes.



Elk Sedge

Sedge Family

Carex geyeri

Family Cyperaceae

CAGE

Range: Mainly east of the Cascades from British Columbia to Utah and Colorado and south to northern California. Not known to occur on the Okanogan National Forest.

Habitat: Typical of drier sites within the grand fir series and common in parts of the Douglas-fir series.

Similar Species: Often confused with pinegrass (*Calamagrostis rubescens*). But the latter has red culm bases, hair at the collar, a round stem and leaves shiny on one side and dull-pubescent on the other.

Remarks: The leaves often have brownish tips where they have partially died back during times of stress. Dense stands may hinder reforestation. Moderately palatable. Early to late successional.



Elk Sedge

Carex geyeri

CAGE

Habit: A grass-like, perennial sedge with three-ranked leaves and solid triangular culms; 8 to 20 inches tall.

Description: *Leaves:* nearly as long as the culms, flat, evergreen and 1 to 3 mm wide. The basal sheaths are tan to brown. *Flowers:* (April-July) the inflorescence is a solitary, bractless, staminate spike subtended by 1-3 pistillate flowers with brownish scales. *Fruits:* large, 3-angled achenes.



Ross Sedge

Sedge Family

Carex rossii

CARO

Family Cyperaceae

Range: Widespread in mountains of western United States.

Habitat: Indicates exposed, sunny sites with soil drought part of the year. Not found in wet environments.

Similar Species: Easily confused with northwestern sedge, (*C. concinnoides*), but the latter has brownish culm bases and all inflorescences stand above the leaves.

Remarks: May compete severely with tree seedlings for moisture. Very fire tolerant and soon returns to pre-burn levels. Moderately palatable. Early successional.



Ross Sedge

Carex rossii

CARO

Habit: A densely tufted, 4 to 12 inches tall sedge without creeping rhizomes.

Description: *Leaves:* elongate, 1 to 4 mm wide, rather lax and commonly longer than the culms. The basal culm sheaths are reddish. *Flowers:* (May-August) the inflorescence consists of an uppermost staminate spike with pistillate spikes immediately below on long peduncles. Short peduncled spikes are commonly hidden among the leaves. The lowermost spikes are subtended by a leafy bract 1 to 2 inches long. *Fruits:* small achenes.



Pinegrass

Grass Family

Calamagrostis rubescens

CARU

Family Gramineae

Range: British Columbia to southeast Alberta; south in Cascades to southern California; eastward through Washington, Oregon and Idaho.

Habitat: Found on all but the coldest and wettest plant associations. It typifies cool, dry environments. Very common; especially on the Okanogan National Forest.

Similar Species: Often confused with elk sedge (*Carex geyeri*) which has evergreen leaves, triangular stems and tan to brown basal sheaths.

Remarks: Usually found without inflorescences as it rarely flowers except in full sunlight. Resistant to fire; normally regenerating to pre-fire quantities in 1-2 years. More than 25% cover of pinegrass indicates strong potential for reforestation problems from moisture competition with tree seedlings. Moderately palatable. Early to late successional.



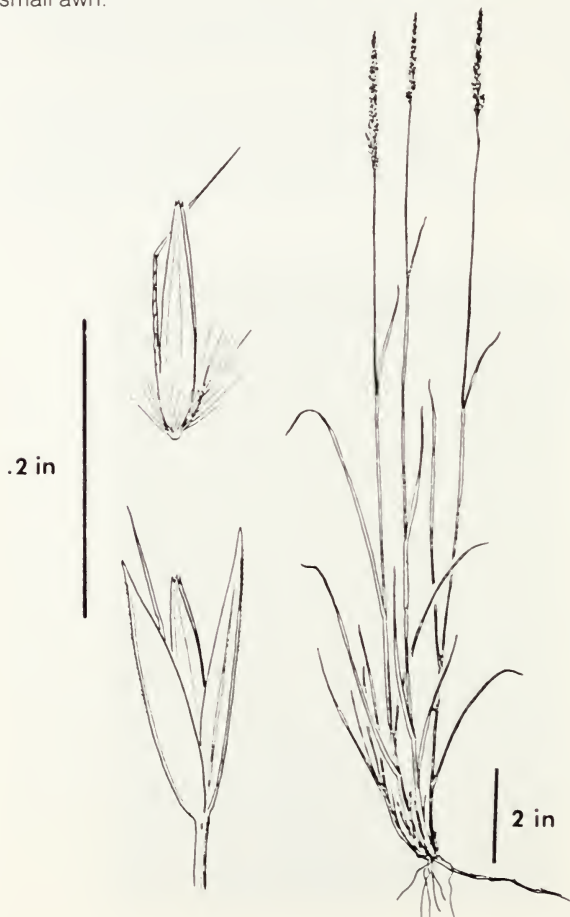
Pinegrass

Calamagrostis rubescens

CARU

Habit: A very common, rhizomatous, perennial grass; 1 to 3 feet tall.

Description: **Leaves:** flat, are long (compared to sheath) and narrow (2 to 4 mm). They are shiny green above and dull below. The culm bases and inflorescence are often red (hence rubescens). The 1 to 5 mm long ligule is ciliolate and the collar has a conspicuous tuft of hair. **Flowers:** (late June-August) the inflorescence is a congested panicle. There is one floret per spikelet; each with an inconspicuous, small, bent, twisted, basal awn. **Fruits:** small, hard, dry seeds with a small awn.



Smooth Woodrush

Rush Family

Luzula hitchcockii

Family Juncaceae

LUHI

Range: From southern British Columbia south to southern Oregon and east to northern Wyoming.

Habitat: Cold environments with a heavy, persistent snowpack. Indicates sites with severe reforestation problems from snow and frost damage.

Similar Species: Easily confused with other woodrushes except that smooth woodrush is the only one with no hairs on the upper leaf blades. It grows at higher elevations than the others. Woodrushes are neither grasses or sedges but are in a separate family. They resemble sedges more than grasses but their floral parts are different.

Remarks: It often appears without seed heads; forming a rusty-brown to light greenish, coarse carpet in high elevation forests and openings. Unpalatable. Early to late successional.



Smooth Woodrush

Luzula hitchcockii

LUHI

Habit: A strongly rhizomatous, perennial woodrush; 6 to 20 inches tall.

Description: *Leaves:* wide and commonly brown to reddish spotted with reddish-brown tips. The bases are often long-hairy while the upper blades are smooth, hairless and somewhat "fleshy". *Flowers:* (July-September) the seed-head is open, 1 to 3 inches long, generally nodding with solitary, brown to purplish-brown flowers. *Fruits:* small capsules.



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